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OM protein - protein search, using sw model

Run on: December 23, 2004, 10:36:00 ; Search time 155 Seconds
(without alignments)
280.040 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632

Sequence: 1 MNAQLDTPPGSTVFRPPT.....ESLIITTPSRPTARRIRL 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 358729299 residues

Total number of hits satisfying chosen parameters: 2002273

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_23Sep04:*

1: Geneseqp1980s:*

2: Geneseqp1980s:*

3: Geneseqp2000s:*

4: Geneseqp2001s:*

5: Geneseqp2002s:*

6: Geneseqp2003as:*

7: Geneseqp2003bs:*

8: Geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	632	100.0	121	5 AAU98742	Aau98742 Chicken a
2	632	100.0	121	7 ADE52796	Ades2796 Human apo
3	632	100.0	121	7 ADL13007	Adm13007 Chicken a
4	629	99.5	121	2 AAR5201	Aar5201 VP3 prote
5	629	99.5	121	2 AAR5201	Aar5201 VP3 of ch
6	629	99.5	121	6 ABP56072	Abp56072 Chicken a
7	624	98.7	121	5 AAU98752	Aau98752 Chicken a
8	624	98.7	121	5 AAU98750	Aau98750 Chicken a
9	624	98.7	121	5 AAU98751	Aau98751 Chicken a
10	624	98.7	121	6 ABP56092	Abp56092 TAT-VP3 f
11	624	98.7	190	6 ABP56095	Abp56095 PTD4-VP3
12	624	98.7	190	6 ABP56096	Abp56096 PTD5-VP3
13	624	98.7	190	6 ABP56094	Abp56094 PTD3-VP3
14	624	98.7	422	6 ABP56097	Abp56097 TAT-GST-V
15	624	98.7	432	6 ABP56093	Abp56093 TAT-ecFP
16	624	98.7	786	6 ABR39984	Abr39984 CIAV prot
17	623	98.6	121	5 AAU98755	Aau98755 Chicken a
18	623	98.6	121	5 AAU98754	Aau98754 Chicken a
19	623	98.6	121	5 AAU98756	Aau98756 Chicken a
20	622	98.4	121	7 ADL13011	Adm13011 Apoptin l
21	621	98.3	121	5 AAU98753	Aau98753 Chicken a
22	621	98.3	134	4 AAY72942	Aay72942 CAV apopt
23	621	98.3	140	4 AAY72943	Aay72943 CAV hexah
24	621	98.3	522	6 AAG79626	Aag79626 Apoptin-T
25	619	97.9	121	5 AAU98757	Aau98757 Chicken a

ALIGNMENTS

RESULT 1

AAU98742

ID AAU98742 standard; peptide; 121 AA.

XX AC AAU98742;

XX XX

DT 27-AUG-2002 (first entry)

XX DE Chicken anemia virus synthesised apoptin protein.

XX KW Immunogenic peptide; apoptin; cancer; leukaemia; p53; apoptosis; mutin;
KW cytostatic; autoimmune disease; immunosuppressive; VP3; tumour; Bcl-2;
KW gene therapy; hyperplasia; metaplasia; dysplasia; Bcr-abl; mutant;
KW Bcl-2-associating protein; BAG-1; cell proliferation disorder.

XX OS Chicken anemia virus.

OS Synthetic.

XX Key Location/Qualifiers

XX Misc-difference 116

XX FT /note= "Wild-type Lys substituted by Arg"

XX WO200232954-A2.

XX 25-APR-2002.

XX 19-OCT-2001; 2001WO-NL000771.

XX 20-OCT-2000; 2000EP-00203652.

XX 20-OCT-2000; 2000US-0242397P.

XX (LEAD-) LEAD BV.

XX Noteborn MM, Rohn JL, Mumberg D, Donner P;

XX WPI; 2002-463306/49.

XX Novel isolated or recombinant phosphorylated Apoptin or its functional equivalent or fragment, useful for detecting presence of cancer cells or cancer prone cells, and for treating cancer or autoimmune disease.

XX Disclosure; Fig 1; 62pp; English.

XX The invention relates to an isolated or recombinant phosphorylated Apoptin (I) also known as VP3 or its functional equivalent and/or its functional fragment. Apoptin induces apoptosis in human malignant and transformed cell lines but not in untransformed cells, by a p53 independent mechanism. Apoptin is therefore a candidate therapeutic for

CC selective destruction of tumour cells which are resistant to
 CC chemotherapeutic agents inducing p53/Bcl-2 associated apoptosis. Also
 CC included are a vector comprising a nucleic acid encoding apoptin, (or its
 CC functional equivalent and/or its functional fragment) which can be
 CC phosphorylated and a nucleic acid encoding a kinase capable of
 CC host cell comprising the vector or vehicle, an anti-apoptin antibody, a
 CC nucleic acid encoding the antibody, a vector comprising the vector, a
 CC nucleic acid, a host cell comprising the antibody nucleic acid or vector,
 CC Apoptin is useful for diagnostic purposes, for detecting the presence of
 CC cancer cells or cells that are cancer prone, for identifying a putative
 CC cancer-inducing agent, for testing the in vitro treatment effect of
 CC apoptin on tumour cells, and for identifying a tumour specific kinase.
 CC Compositions comprising the apoptins and antibodies are useful for
 CC treating an individual carrying a disease where enhanced cell
 CC proliferation or decreased cell death is observed, e.g. cancer, leukaemia
 CC or auto-immune disease. Apoptin is useful as a therapeutic compound for
 CC the selective destruction of tumour cells or hyperplasia, metaplasia or
 CC dysplasia. Apoptin has no toxic effect in in vivo treatment regimes and
 CC induces apoptosis in the absence of functional p53 and cannot be blocked
 CC by Bcl-2, Bcr-abl or the Bcl-2-associated protein BAG-1. The present
 CC sequence is a synthesised apoptin containing a Lys to Arg mutation at
 CC position 116
 XX
 SQ Sequence 121 AA;

Query Match 100.0%; Score 632; DB 5; Length 121;
 Best Local Similarity 100.0%; Pred. No. 2.5e-61;
 Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60
 DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60
 QY 61 TADNSESTGFKNVPLDLDTPQPKSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
 DB 61 TADNSESTGFKNVPLDLDTPQPKSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
 QY 121 L 121
 DB 121 L 121

RESULT 2
 ADE52796
 ID ADE52796 standard; peptide; 121 AA.
 AC ADE52796;
 XX
 DT 29-JAN-2004 (first entry)
 XX
 DE Human apoptin.
 XX
 KW human; apoptin; NLS; nuclear localisation signal;
 KW aberrant-specific apoptosis; cytostatic; immunosuppressive; gene therapy;
 KW cell proliferation; cancer; autoimmune disease.
 XX
 OS Homo sapiens.
 XX
 XX WO2003089467-A1.
 PN
 XX 30-OCT-2003.
 PD
 XX 18-MAR-2003; 2003WO-NL000195.
 PF
 XX 19-APR-2002; 2002EP-00076597.
 PR
 XX (LEAD-) LEADD BV.
 PA
 XX Noteborn MMH, Danen-Van Oorschot AAM;
 PI
 XX WPI; 2003-845522/78.
 DR
 XX

PT New fragment of Apoptin that induces aberrant-specific apoptosis, useful
 PT in preparing a medicament for treating a disease associated with enhanced
 PT cell proliferation or decreased cell death, e.g., cancer or autoimmune
 PT disease.
 XX
 PS Claim 2; Fig 1; 46pp; English.
 XX
 CC The invention relates to a novel isolated or recombinant fragment of
 CC Apoptin that is capable of inducing aberrant-specific apoptosis. A
 CC peptide of the invention has cytostatic, and immunosuppressive activity,
 CC and may have a use in gene therapy. The fragment of Apoptin, nucleic
 CC acid, vector, gene delivery vehicle or host cell is useful in preparing a
 CC medicament for treating a disease where enhanced cell proliferation or
 CC decreased cell death is observed, e.g., cancer or autoimmune disease. The
 CC present sequence is used in the exemplification of the invention.
 XX
 SQ Sequence 121 AA;

Query Match 100.0%; Score 632; DB 7; Length 121;
 Best Local Similarity 100.0%; Pred. No. 2.5e-61;
 Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60
 DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGGCANARAPTLRSA 60
 QY 61 TADNSESTGFKNVPLDLDTPQPKSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
 DB 61 TADNSESTGFKNVPLDLDTPQPKSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
 QY 121 L 121
 DB 121 L 121

RESULT 3
 ADM13007
 ID ADM13007 standard; protein; 121 AA.
 XX
 AC ADM13007;
 XX
 DT 20-MAY-2004 (first entry)
 XX
 DE Chicken anaemia virus (CAV) Apoptin.
 XX
 KW Apoptin; VP3; CAV; tumour-specific phosphorylation;
 KW tumour-specific kinase; endogenous substrate; identification;
 KW kinase inhibitor; kinase modulator; cell proliferative disorder;
 KW apoptotic disorder; cancer; autoimmune disease; cytostatic;
 KW immunosuppressive; gene therapy.
 XX
 OS Chicken anemia virus.
 XX
 FH Key Location/Qualifiers
 FT Protein 80..121
 FT /note= "This fragment is an inhibitor of an aberrant-
 FT specific Apoptin kinase (tumour-specific kinase)"
 FT Misc-difference 106..110
 FT /note= "These 5 residues are replaced by Ala-Ala-Ala-Ala-
 FT Ala in a loss-of-function mutant created in the
 FT invention"
 FT FT
 FT Misc-difference 107..108
 FT /note= "These 2 residues are replaced by Ala-Ala in a
 FT loss-of-function mutant created in the invention"
 FT FT
 FT Modified-site 108
 FT /note= "Thr is O-phosphorylated only in malignant or
 FT transformed cells."
 FT
 PN WO2003089936-A1.
 XX
 XX 30-OCT-2003.
 PD
 XX 17-APR-2003; 2003WO-NL000294.
 PF

XX 19-APR-2002; 2002EP-00076596.
XX (LEAD-) LEAD BV.
XX Noteborn MEM, Rohn JL;
XX WPI; 2003-845561/78.
XX Identifying a substrate of a kinase capable of phosphorylating Apoptin in
XX an aberrant-specific way, useful in inducing apoptosis in tumor cells,
XX comprises preparing aberrant and reference cells and incubating with an
XX antibody.
XX Example; Fig 1; 69pp; English.
XX The invention relates to a method for identifying a substrate of a kinase
XX capable of phosphorylating Apoptin (also known as VP3) in a manner
XX characteristic of malignant and transformed cells (aberrant cells).
XX Apoptin is a small protein derived from chicken anaemia virus (CAV) which
XX induces apoptosis in malignant and transformed cells, but not in normal
XX cells. This pattern of apoptotic activity is related to the finding that
XX Apoptin is phosphorylated on Thr 108 in aberrant cells, whereas it is not
XX phosphorylated at this position in normal cells, indicating that there is
XX a tumour-specific kinase activity. The method of the invention aims to
XX identify endogenous cellular substrates for this tumour-specific kinase
XX and involves preparing lysates from aberrant and from normal reference
XX cells; incubating the components of the lysates with a molecule capable
XX of recognising phosphorylated Apoptin and phosphorylated substrate; and
XX visualising the molecule, comparing the lysate components and identifying
XX the substrate. The invention also relates to a substrate obtained using
XX the above method; a method of obtaining a modulator of a kinase involved
XX in aberrant-specific Apoptin phosphorylation; a protein inhibitor of an
XX aberrant-specific Apoptin kinase; nucleic acids encoding the protein
XX inhibitor; vectors, host cells and gene delivery vehicles comprising the
XX nucleic acids; and methods of selecting and identifying a molecule which
XX binds to both aberrant cell-specific Apoptin and a cellular protein that
XX is phosphorylated in aberrant cells but not in normal cells. The tumour-
XX specific kinase substrate identified according to the method of the
XX invention is useful as a drug target. The inhibitor, nucleic acid,
XX vector, gene delivery vehicle or host cell may be used to inhibit the
XX activity of a tumour-specific kinase towards its endogenous substrate and
XX is useful in the treatment of disease where enhanced cell proliferation
XX or decreased cell death is observed, e.g., cancer or autoimmune diseases.
XX The tumour-specific kinase substrate identified according to the method
XX of the invention is useful as a drug target for these disorders. The
XX present sequence represents Apoptin. A C-terminal fragment of Apoptin
XX (residues 80-121) is disclosed as an inhibitor of an aberrant-specific
XX Apoptin kinase.
XX Sequence 121 AA;
Query Match 100.0%; Score 632; DB 7; Length 121;
Best Local Similarity 100.0%; Pred. No. 2.5e-61;
Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60
QY 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRRIR 120
DB 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRRIR 120
QY 121 L 121
DB 121 L 121
RESULT 4
AAR65201
ID AAR65201 standard; protein; 121 AA.
XX

AC AAR65201;
XX 25-MAR-2003 (revised)
DT 19-AUG-1995 (first entry)
XX VP3 protein.
XX Chicken anaemia virus VP1 protein; apoptosis; cancer therapy; vaccine;
KW antitumor; antibody generation.
XX Chicken anaemia virus.
OS Chicken anaemia virus.
XX WO9503414-A2.
PN 02-FEB-1995.
XX 19-JUL-1994; 94WO-NL000168.
PF 20-JUL-1993; 93NL-00001272.
PR (AESC-) AESCULAAP BV.
PA Noteborn MEM, Koch G;
PI WPI; 1995-075240/10.
DR N-PSDB; AAQ82830.
XX Chicken anaemia virus (CAV) mutant polypeptide(s) - useful as vaccines or
PT for inducing apoptosis.
XX Claim 1; Fig 3; 53pp; English.
PS The sequence corresponds to a VP3 protein from chicken anaemia virus,
CC (CAV), and may be used to induce apoptosis directly or to generate
CC antibodies against CAV. The protein may be used as a vaccine or an
CC antitumor agent. (Updated on 25-MAR-2003 to correct PN field.)
XX Sequence 121 AA;
Query Match 99.5%; Score 629; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 5.3e-61;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60
QY 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRRIR 120
DB 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRRIR 120
QY 121 L 121
DB 121 L 121
RESULT 5
AAR88499
ID AAR88499 standard; protein; 121 AA.
XX AAR88499;
XX 27-AUG-2003 (revised)
DT 15-APR-1996 (first entry)
XX VP3 of chicken infectious anaemia virus.
XX Chicken infectious anaemia virus; vaccination; VP1; VP2; VP3; ss.
XX Chicken anaemia virus (usa isolate CIA-1).
XX WO9601116-A1.
XX

PD 18-JAN-1996.
 XX
 XX 05-JUL-1995; 95WO-US008440.
 XX
 XX 06-JUL-1994; 94US-00271094.
 PR 03-JUL-1995; 95US-00478086.
 XX
 XX (CORR) CORNELL RES FOUND INC.
 PA
 XX
 PI Schat KA, Soine C, Lucio B, Renshaw R;
 XX
 XX WPI; 1996-087514/09.
 DR N-PSDB; AAT10913.
 DR
 XX
 PT Chicken infectious anaemia virus strain CIA-1 genome sequences, and novel
 PT VPI sequence - useful to control chicken infectious anaemia such as by
 PT vaccination.
 XX
 XX Disclosure; Page 43-44; 59pp; English.
 XX
 XX The genome of the CIA-1 strain of chicken infectious anaemia virus
 CC encodes a VP-1 protein with at least four unique amino acid changes
 CC compared to the VPI protein of other chicken infectious anaemia virus
 CC isolates. The new VPI amino acid sequence exhibits a difference in
 CC pathogenic potential and cell tropism as compared to cell culture-adapted
 CC strains. New sequences (encoding VPI (AAT10911), VP2 (AAT10912) and VP3
 CC (AAT10913)) and the corresponding polypeptides may be used in strategies
 CC to control chicken infectious anaemia such as by vaccination. (Updated on
 CC 27-AUG-2003 to correct OS field.)
 XX
 XX Sequence 121 AA;

Query Match 99.5%; Score 629; DB 2; Length 121;
 Best Local Similarity 99.2%; Pred. No. 5.3e-61;
 Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
 DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
 QY 61 TADNSESTGKPNVPLDRLTDQPKPSKRCSDPSEYRVSELKESLIITTTSPRPTARRR 120
 DB 61 TADNSESTGKPNVPLDRLTDQPKPSKRCSDPSEYRVSELKESLIITTTSPRPTARRR 120
 QY 121 L 121
 DB 121 L 121

RESULT 6
 ABP56072
 ID ABP56072 standard; protein; 121 AA.

XX ABP56072;
 XX
 XX 27-FEB-2003 (first entry)
 DT
 DE Chicken anaemia virus (CAV) VP3 protein.
 XX
 XX Cancer cell death; cancer; tumour; protein transduction domain; CAV;
 KW chicken anaemia virus; cytostatic; proliferative cell disorder;
 KW carcinogenesis; metastasis.
 XX
 XX Chicken anaemia virus.
 OS
 XX WO200285305-A2.
 PN
 XX 31-OCT-2002.
 PD
 XX 24-APR-2002; 2002WO-US013092.
 PF
 XX 24-APR-2001; 2001US-0286099P.
 PR
 XX
 XX

PA (UNIW) UNIV WASHINGTON.
 XX
 XX Dowdy SF, Ezhevsky SA, Wadia JS;
 PI
 XX
 DR WPI; 2003-093056/08.
 XX
 PT Novel fusion molecule useful for preventing or treating cancer, comprises
 PT a protein transduction domain and a chicken anemia virus VP3 molecule.
 XX
 XX Disclosure; Page 22; 104pp; English.
 PS
 XX
 XX The present invention describes a fusion molecule (I) comprising at least
 CC one protein transduction domain (PTD) and at least one chicken anaemia
 CC virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for
 CC inducing cell death. (I) is useful for detecting cancerous or pre-
 CC cancerous cells in a mammal or for killing or injuring cancerous or pre-
 CC cancerous cells in a mammal. (I) is useful as a magnetic bullet to
 CC selectively kill cancer cells in vitro and in vivo, for inducing cell
 CC death, and for preventing or treating cancer and related proliferative
 CC disorders. (I) is also useful for studying mechanisms of carcinogenesis
 CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules
 CC directly into the cells. (I) attacks cancer and pre-cancerous cells while
 CC leaving normal cells relatively unharmed. Since more cells can be
 CC targeted by (I) when compared with past attempts using different VP3
 CC constructs, potential for patient relapse and side-effects are greatly
 CC reduced. The present sequence represents the CAV VP3 protein sequence
 CC which is given in the exemplification of the present invention
 XX
 XX Sequence 121 AA;

Query Match 99.5%; Score 629; DB 6; Length 121;
 Best Local Similarity 99.2%; Pred. No. 5.3e-61;
 Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
 DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
 QY 61 TADNSESTGKPNVPLDRLTDQPKPSKRCSDPSEYRVSELKESLIITTTSPRPTARRR 120
 DB 61 TADNSESTGKPNVPLDRLTDQPKPSKRCSDPSEYRVSELKESLIITTTSPRPTARRR 120
 QY 121 L 121
 DB 121 L 121

RESULT 7
 AAU98752
 ID AAU98752 standard; peptide; 121 AA.

XX AAU98752;
 AC
 XX 27-AUG-2002 (first entry)
 DT
 DE Chicken anaemia virus apoptin T108A mutant.
 XX
 XX Immunogenic peptide; apoptin; cancer; leukaemia; p53; apoptosis; mutcin;
 KW cytostatic; autoimmune disease; immunosuppressive; VP3; tumour; Bcl-2;
 KW gene therapy; hyperplasia; metaplasia; dysplasia; Bcr-abl; mutant;
 KW Bcl-2-associating protein; BAG-1; cell proliferation disorder;
 KW alanine scanning; phosphorylation.
 XX
 XX Chicken anaemia virus.
 OS
 XX Synthetic.
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 108 /note="Wild-type Thr substituted by Ala"
 FT
 XX WO200232954-A2.
 PN
 XX 25-APR-2002.
 PD

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XX 19-OCT-2001; 2001WO-NL000771.
XX 20-OCT-2000; 2000EP-00203652.
XX 20-OCT-2000; 2000US-0242397P.
XX (LEAD-) LEADD BV.
XX Noteborn MHM, Rohn JL, Mumberg D, Donner P;
XX WPI; 2002-463306/49.
XX Novel isolated or recombinant phosphorylated Apoptin or its functional
XX equivalent or fragment, useful for detecting presence of cancer cells or
XX cancer prone cells, and for treating cancer or autoimmune disease.
XX Disclosure; Page; 62pp; English.
XX The invention relates to an isolated or recombinant phosphorylated
XX Apoptin (I) also known as VP3 or its functional equivalent and/or its
XX functional fragment. Apoptin induces apoptosis in human malignant and
XX transformed cell lines but not in untransformed cells, by a p53
XX independent mechanism. Apoptin is therefore a candidate therapeutic for
XX selective destruction of tumour cells which are resistant to
XX chemotherapeutic agents inducing p53/Bcl-2 associated apoptosis. Also
XX included are a vector comprising a nucleic acid encoding apoptin, (or its
XX functional equivalent and/or its functional fragment) which can be
XX phosphorylated and a nucleic acid encoding a kinase capable of
XX phosphorylating apoptin, a gene delivery vehicle comprising the vector, a
XX host cell comprising the vector or vehicle, an anti-apoptin antibody, a
XX nucleic acid encoding the antibody, a vector comprising the antibody
XX nucleic acid, a host cell comprising the antibody nucleic acid or vector,
XX Apoptin is useful for diagnostic purposes, for detecting the presence of
XX cancer cells or cells that are cancer prone, for identifying a putative
XX cancer-inducing agent, for testing the in vitro treatment effect of
XX apoptin on tumour cells, and for identifying a tumour specific kinase.
XX Compositions comprising the apoptins and antibodies are useful for
XX treating an individual carrying a disease where enhanced cell
XX proliferation or decreased cell death is observed, e.g. cancer, leukaemia
XX or auto-immune disease. Apoptin is useful as a therapeutic compound for
XX the selective destruction of tumour cells or hyperplasia, metaplasia or
XX induces apoptosis in the absence of functional p53 and cannot be blocked
XX by Bcl-2, Bcr-abl or the Bcl-2-associated protein BAG-1. The present
XX sequence is an apoptin mutant created during an alanine scanning
XX experiment for mapping the phosphorylation sites in apoptin. Note: The
XX present sequence is not shown in the specification but was created by the
XX indexer using the information in figure 4 and the wild-type apoptin
XX protein sequence
XX Sequence 121 AA;
Query Match 98.7%; Score 624; DB 5; Length 121;
Best Local Similarity 98.3%; Pred. No. 1.9e-60;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNAQEDTPGSPVFPPTSSRPLETPHCRERIGTAGITITLSCGCANARPTLRS 60
DB 1 MNAQEDTPGSPVFPPTSSRPLETPHCRERIGTAGITITLSCGCANARPTLRS 60
QY 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPTARRIR 120
DB 61 TADNSETGFKNPVLDLTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPTARRIR 120
QY 121 L 121
DB 121 L 121
RESULT 8
AAU98750
ID AAU98750 standard; peptide; 121 AA.
XX

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AC AAU98750;
XX 27-AUG-2002 (first entry)
XX Chicken anemia virus apoptin T106A mutant.
XX Immunogenic peptide; apoptin; cancer; leukaemia; p53; apoptosis; mutin;
XX cytostatic; autoimmune disease; immunosuppressive; VP3; tumour; Bcl-2;
XX gene therapy; hyperplasia; metaplasia; dysplasia; Bcr-abl; mutant;
XX Bcl-2-associated protein; BAG-1; cell proliferation disorder;
XX alanine scanning; phosphorylation.
XX Chicken anemia virus. OS
XX Synthetic. OS
XX Key Location/Qualifiers
XX Misc-difference 106 /note= "Wild-type Thr substituted by Ala"
XX WO200232954-A2.
XX 25-APR-2002.
XX 19-OCT-2001; 2001WO-NL000771.
XX 20-OCT-2000; 2000EP-00203652.
XX 20-OCT-2000; 2000US-0242397P.
XX (LEAD-) LEADD BV.
XX Noteborn MHM, Rohn JL, Mumberg D, Donner P;
XX WPI; 2002-463306/49.
XX Novel isolated or recombinant phosphorylated Apoptin or its functional
XX equivalent or fragment, useful for detecting presence of cancer cells or
XX cancer prone cells, and for treating cancer or autoimmune disease.
XX Disclosure; Page; 62pp; English.
XX The invention relates to an isolated or recombinant phosphorylated
XX Apoptin (I) also known as VP3 or its functional equivalent and/or its
XX functional fragment. Apoptin induces apoptosis in human malignant and
XX transformed cell lines but not in untransformed cells, by a p53
XX independent mechanism. Apoptin is therefore a candidate therapeutic for
XX selective destruction of tumour cells which are resistant to
XX chemotherapeutic agents inducing p53/Bcl-2 associated apoptosis. Also
XX included are a vector comprising a nucleic acid encoding apoptin, (or its
XX functional equivalent and/or its functional fragment) which can be
XX phosphorylated and a nucleic acid encoding a kinase capable of
XX phosphorylating apoptin, a gene delivery vehicle comprising the vector, a
XX host cell comprising the vector or vehicle, an anti-apoptin antibody, a
XX nucleic acid encoding the antibody, a vector comprising the antibody
XX nucleic acid, a host cell comprising the antibody nucleic acid or vector,
XX Apoptin is useful for diagnostic purposes, for detecting the presence of
XX cancer cells or cells that are cancer prone, for identifying a putative
XX cancer-inducing agent, for testing the in vitro treatment effect of
XX apoptin on tumour cells, and for identifying a tumour specific kinase.
XX Compositions comprising the apoptins and antibodies are useful for
XX treating an individual carrying a disease where enhanced cell
XX proliferation or decreased cell death is observed, e.g. cancer, leukaemia
XX or auto-immune disease. Apoptin is useful as a therapeutic compound for
XX the selective destruction of tumour cells or hyperplasia, metaplasia or
XX induces apoptosis in the absence of functional p53 and cannot be blocked
XX by Bcl-2, Bcr-abl or the Bcl-2-associated protein BAG-1. The present
XX sequence is an apoptin mutant created during an alanine scanning
XX experiment for mapping the phosphorylation sites in apoptin. Note: The
XX present sequence is not shown in the specification but was created by the
XX indexer using the information in figure 4 and the wild-type apoptin
XX protein sequence
XX Sequence 121 AA;

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Query Match 98.7%; Score 624; DB 5; Length 121;
 Best Local Similarity 98.3%; Pred. No. 1.9e-60;
 Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLCGCANARAPTLRSA 60
 DB 1 MNALQEDTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLCGCANARAPTLRSA 60

QY 61 TADNSESTGFKNVPLDRTDQPKPPSKRSCDPSEYRVSELKSLITTPSRPTARRR 120
 DB 61 TADNSESTGFKNVPLDRTDQPKPPSKRSCDPSEYRVSELKSLITTPSRPTARRR 120

QY 121 L 121
 DB 121 L 121

RESULT 9
 AAU98751
 ID AAU98751 standard; peptide; 121 AA.
 AC AAU98751;
 XX
 XX
 DT 27-AUG-2002 (first entry)
 DE Chicken anemia virus apoptin T107A mutant.
 XX
 KW Immunogenic peptide; apoptin; cancer; leukaemia; p53; apoptosis; muten;
 KW cytostatic; autoimmune disease; immunosuppressive; VP3; tumour; Bcl-2;
 KW gene therapy; hyperplasia; metaplasia; dysplasia; Bcr-abl; mutant;
 KW Bcl-2-associated protein; BAG-1; cell proliferation disorder;
 KW alanine scanning; phosphorylation.
 XX
 OS Chicken anemia virus.
 OS Synthetic.
 FH Key Location/Qualifiers
 FT Misc-difference 107 /note= "Wild-type Thr substituted by Ala"
 FT
 XX WO200232954-A2.
 XX
 XX 25-APR-2002.
 XX
 XX 19-OCT-2001; 2001WO-NL000771.
 XX
 XX 20-OCT-2000; 2000EP-00203652.
 PR 20-OCT-2000; 2000US-0242397P.
 XX
 XX (LEAD-) LEADD BV.
 XX
 XX Noteborn MMH, Rohn JL, Mumberg D, Donner P;
 XX
 XX WPI; 2002-463306/49.
 XX
 XX Novel isolated or recombinant phosphorylated Apoptin or its functional
 PT equivalent or fragment, useful for detecting presence of cancer cells or
 PT cancer prone cells, and for treating cancer or autoimmune disease.
 XX
 XX Disclosure; Page: 62pp; English.
 XX
 XX The invention relates to an isolated or recombinant phosphorylated
 CC Apoptin (I) also known as VP3 or its functional equivalent and/or its
 CC functional fragment. Apoptin induces apoptosis in human malignant and
 CC transformed cell lines but not in untransformed cells, by a p53
 CC independent mechanism. Apoptin is therefore a candidate therapeutic for
 CC selective destruction of tumour cells which are resistant to
 CC chemotherapeutic agents inducing p53/Bcl-2 associated apoptosis. Also
 CC included are a vector comprising a nucleic acid encoding apoptin, (or its
 CC functional equivalent and/or its functional fragment) which can be
 CC phosphorylated and a nucleic acid encoding a kinase capable of
 CC phosphorylating apoptin, a gene delivery vehicle comprising the vector, a

CC host cell comprising the vector or vehicle, an anti-apoptin antibody, a
 CC nucleic acid encoding the antibody, a vector comprising the antibody
 CC nucleic acid, a host cell comprising the antibody nucleic acid or vector,
 CC Apoptin is useful for diagnostic purposes, for detecting the presence of
 CC cancer cells or cells that are cancer prone, for identifying a putative
 CC cancer-inducing agent, for testing the in vitro treatment effect of
 CC apoptin on tumour cells, and for identifying a tumour specific kinase.
 CC Compositions comprising the apoptins and antibodies are useful for
 CC treating an individual carrying a disease where enhanced cell
 CC proliferation or decreased cell death is observed, e.g. cancer, leukaemia
 CC or auto-immune disease. Apoptin is useful as a therapeutic compound for
 CC the selective destruction of tumour cells or hyperplasia, metaplasia or
 CC dysplasia. Apoptin has no toxic effect in in vivo treatment regimes and
 CC induces apoptosis in the absence of functional p53 and cannot be blocked
 CC by Bcl-2, Bcr-abl or the Bcl-2-associated protein BAG-1. The present
 CC sequence is an apoptin mutant created during an alanine scanning
 CC experiment for mapping the phosphorylation sites in apoptin. Note: The
 CC present sequence is not shown in the specification but was created by the
 CC indexer using the information in figure 4 and the wild-type apoptin
 CC protein sequence

XX Sequence 121 AA;

Query Match 98.7%; Score 624; DB 5; Length 121;
 Best Local Similarity 98.3%; Pred. No. 1.9e-60;
 Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLCGCANARAPTLRSA 60

DB 1 MNALQEDTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLCGCANARAPTLRSA 60

QY 61 TADNSESTGFKNVPLDRTDQPKPPSKRSCDPSEYRVSELKSLITTPSRPTARRR 120

DB 61 TADNSESTGFKNVPLDRTDQPKPPSKRSCDPSEYRVSELKSLITTPSRPTARRR 120

QY 121 L 121

DB 121 L 121

RESULT 10

ABP56092

ID ABP56092 standard; protein; 190 AA.

XX

XX ABP56092;

XX 27-FEB-2003 (first entry)

XX TAT-VP3 fusion protein.

XX Cancer cell death; cancer; tumour; protein transduction domain; CAV;

XX chicken anaemia virus; cytostatic; proliferative cell disorder;

XX carcinogenesis; metastasis; fusion protein.

XX Chicken anemia virus.

OS Synthetic.

XX WO200285305-A2.

XX 31-OCT-2002.

XX 24-APR-2002; 2002WO-US013092.

XX 24-APR-2001; 2001US-0286099P.

XX (UNIW) UNIV WASHINGTON.

XX Dowdy SF, Ezhevsky SA, Wadia JS;

XX WPI; 2003-093056/08.

XX N-PSDB; AB221714.

XX Novel fusion molecule useful for preventing or treating cancer, comprises

PT a protein transduction domain and a chicken anemia virus VP3 molecule.
XX Claim 36; Fig 2; 104pp; English.
XX
CC The present invention describes a fusion molecule (I) comprising at least
CC one protein transduction domain (PTD) and at least one chicken anaemia
CC virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for
CC inducing cell death. (I) is useful for detecting cancerous or pre-
CC cancerous cells in a mammal or for killing or injuring cancerous or pre-
CC cancerous cells in a mammal. (I) is useful as a magnetic bullet to
CC selectively kill cancer cells in vitro and in vivo, for inducing cell
CC death, and for preventing or treating cancer and related proliferative
CC disorders. (I) is also useful for studying mechanisms of carcinogenesis
CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules
CC directly into the cells. (I) attacks cancer and pre-cancerous cells while
CC leaving normal cells relatively unharmed. Since more cells can be
CC targeted by (I) when compared with past attempts using different VP3
CC constructs, potential for patient relapse and side-effects are greatly
CC reduced. The present sequence represents a TAT-VP3 fusion protein from
CC the present invention
XX
SQ Sequence 190 AA;

Query Match 98.7%; Score 624; DB 6; Length 190;
Best Local Similarity 99.2%; Pred. No. 3.3e-60;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 NALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTURSAT 61
DB 71 NALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTURSAT 130

QY 62 ADNSESTGFKNVPLDRTDQPKPSKKRSCDPSEYRVSELKESLITTTSPRPTARRRRL 121
DB 131 ADNSESTGFKNVPLDRTDQPKPSKKRSCDPSEYRVSELKESLITTTSPRPTARRRRL 190

RESULT 11
ABP56095
ID ABP56095 standard; protein; 190 AA.
XX
AC ABP56095;
XX
XX 27-FEB-2003 (first entry)
DT
DE PTD4-VP3 fusion protein.
XX
XX Cancer cell death; cancer; tumour; protein transduction domain; CAV;
XX chicken anaemia virus; cytostatic; proliferative cell disorder;
XX carcinogenesis; metastasis; fusion protein.
XX
XX Chicken anaemia virus.
XX Synthetic.
XX
XX WO200285305-A2.
FN
XX 31-OCT-2002.
XX
XX 24-APR-2002; 2002WO-US013092.
PF
XX 24-APR-2001; 2001US-0286099P.
PR
XX (UNIW) UNIV WASHINGTON.
PA
XX Dowdy SF, Ezhevsky SA, Wadia JS;
PI
XX WPI; 2003-093056/08.
DR
XX
XX Novel fusion molecule useful for preventing or treating cancer, comprises
XX a protein transduction domain and a chicken anemia virus VP3 molecule.
XX
XX Claim 36; Fig 5B; 104pp; English.
XX
XX The present invention describes a fusion molecule (I) comprising at least

CC one protein transduction domain (PTD) and at least one chicken anaemia
CC virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for
CC inducing cell death. (I) is useful for detecting cancerous or pre-
CC cancerous cells in a mammal or for killing or injuring cancerous or pre-
CC cancerous cells in a mammal. (I) is useful as a magnetic bullet to
CC selectively kill cancer cells in vitro and in vivo, for inducing cell
CC death, and for preventing or treating cancer and related proliferative
CC disorders. (I) is also useful for studying mechanisms of carcinogenesis
CC and metastases eukaryotic cells. (I) effectively transduces VP3 molecules
CC directly into the cells. (I) attacks cancer and pre-cancerous cells while
CC leaving normal cells relatively unharmed. Since more cells can be
CC targeted by (I) when compared with past attempts using different VP3
CC constructs, potential for patient relapse and side-effects are greatly
CC reduced. The present sequence represents a PTD4-VP3 fusion protein from
CC the present invention
XX
SQ Sequence 190 AA;

Query Match 98.7%; Score 624; DB 6; Length 190;
Best Local Similarity 99.2%; Pred. No. 3.3e-60;
Matches 119; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 NALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTURSAT 61
DB 71 NALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTURSAT 130

QY 62 ADNSESTGFKNVPLDRTDQPKPSKKRSCDPSEYRVSELKESLITTTSPRPTARRRRL 121
DB 131 ADNSESTGFKNVPLDRTDQPKPSKKRSCDPSEYRVSELKESLITTTSPRPTARRRRL 190

RESULT 12
ABP56096
ID ABP56096 standard; protein; 190 AA.
XX
AC ABP56096;
XX
XX 27-FEB-2003 (first entry)
DT
DE PTD5-VP3 fusion protein.
XX
XX Cancer cell death; cancer; tumour; protein transduction domain; CAV;
XX chicken anaemia virus; cytostatic; proliferative cell disorder;
XX carcinogenesis; metastasis; fusion protein.
XX
XX Chicken anaemia virus.
XX Synthetic.
XX
XX WO200285305-A2.
FN
XX 31-OCT-2002.
XX
XX 24-APR-2002; 2002WO-US013092.
PF
XX 24-APR-2001; 2001US-0286099P.
PR
XX (UNIW) UNIV WASHINGTON.
PA
XX Dowdy SF, Ezhevsky SA, Wadia JS;
PI
XX WPI; 2003-093056/08.
DR
XX
XX Novel fusion molecule useful for preventing or treating cancer, comprises
XX a protein transduction domain and a chicken anemia virus VP3 molecule.
XX
XX Claim 36; Fig 5C; 104pp; English.
XX
XX The present invention describes a fusion molecule (I) comprising at least
XX one protein transduction domain (PTD) and at least one chicken anaemia
XX virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for
XX inducing cell death. (I) is useful for detecting cancerous or pre-
XX cancerous cells in a mammal or for killing or injuring cancerous or pre-
XX cancerous cells in a mammal. (I) is useful as a magnetic bullet to

CC from the present invention
XX
SQ Sequence 422 AA;

	Query Match	Best Local Similarity	Score 624;	DB 6;	Length 422;
	Matches 119;	Conservative 1;	Mismatches 0;	Indels 0;	Gaps 0;
Qy	2	NALQEDTPPGPSTVFRPPTSSRPLETHPCREIRIGIAGITITLSLCCANARAPTLRSAT	61		
Db	303	NALQEDTPPGPSTVFRPPTSSRPLETHPCREIRIGIAGITITLSLCCANARAPTLRSAT	362		
Qy	62	ADNSESFGKNVPLDRDQPKPPSKKSCDPSYRVSELKESLITPTPSRPRTARRRL	121		
Db	363	ADNSESFGKNVPLDRDQPKPPSKKSCDPSYRVSELKESLITPTPSRPRTARRRL	422		

RESULT 15

ABP56093	
ID	ABP56093 standard; protein; 432 AA.
XX	
XX	ABP56093;
XX	
XX	27-FEB-2003 (first entry)
DT	
XX	
XX	TAT-eGFP-VP3 fusion protein.
DE	
XX	
XX	Cancer cell death; cancer; tumour; protein transduction domain; CAV;
XX	chicken anemia virus; cytostatic; proliferative cell disorder;
KW	carcinogenesis; metastasis; fusion protein.
KW	
XX	
XX	Chicken anemia virus.
OS	
OS	Synthetic.
XX	
XX	WO200285305-A2.
PN	
XX	
XX	31-OCT-2002.
PD	
XX	
XX	24-APR-2002; 2002WO-US013092.
PF	
PF	
XX	
PR	24-APR-2001; 2001US-0286099P.
XX	
XX	(UNIW) UNIV WASHINGTON.
PA	
XX	
PI	Dowdy SF, Ezhevsky SA, Wadia JS;
XX	
XX	WPI; 2003-093056/08.
DR	N-PSDB; AB221715.
DR	

Novel fusion molecule useful for preventing or treating cancer, comprises a protein transduction domain and a chicken anemia virus VP3 molecule.

PS Claim 36; Fig 4; 104pp; English.

The present invention describes a fusion molecule (I) comprising at least one protein transduction domain (PTD) and at least one chicken anaemia virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for inducing cell death. (I) is useful for detecting cancerous or pre-cancerous cells in a mammal or for killing or injuring cancerous or pre-cancerous cells in a mammal. (I) is useful as a magnetic bullet to selectively kill cancer cells in vitro and in vivo, for inducing cell death, and for preventing or treating cancer and related proliferative disorders. (I) is also useful for studying mechanisms of carcinogenesis and metastases eukaryotic cells. (I) effectively transduces VP3 molecules directly into the cells. (I) attacks cancer and pre-cancerous cells while leaving normal cells relatively unharmed. Since more cells can be targeted by (I) when compared with past attempts using different VP3 constructs, potential for patient relapse and side-effects are greatly reduced. The present sequence represents a TAT-eGFP-VP3 fusion protein from the present invention

Sequence 432 AA;
SQ

	Query Match	98.7%	Score 624;	DB 6;	Length 432;
	Best Local Similarity	99.2%;	Pred. No. 8.8e-60;		
	Matches 119;	Conservative 1;	Mismatches 0;	Indels 0;	Gaps 0;
QY	2	NALQDTPPGPSTVFRRPSSRPLETPHCKREIRIGIAGITITLSLGCANARAPTLRSAT	61		
Db	313	NALQDTPPGPSTVFRRPSSRPLETPHCKREIRIGIAGITITLSLGCANARAPTLRSAT	372		
QY	62	ADNSETGFKNVPDLRTDQPKPSKGRCDPSEYRVSELKESLITTPSRPRTRARRRL	121		
Db	373	ADNSETGFKNVPDLRTDQPKPSKGRCDPSEYRVSELKESLITTPSRPRTRARRRL	432		

Search completed: December 23, 2004, 11:00:10
Job time : 157 secs

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OM protein - protein search, using sw model

Run on: December 23, 2004, 10:53:21 ; Search time 38 Seconds
(without alignments)

211.170 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632

Sequence: 1 MNALQEDTPGSPVFRPT.....ESLIITTPSRPTARRIRL 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 478139 seqs, 66318000 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA:*

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- 2: /cgn2_6/ptodata/1/iaa/5B COMB.pep.*
- 3: /cgn2_6/ptodata/1/iaa/6A COMB.pep.*
- 4: /cgn2_6/ptodata/1/iaa/6B COMB.pep.*
- 5: /cgn2_6/ptodata/1/iaa/PCTUS COMB.pep.*
- 6: /cgn2_6/ptodata/1/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	629	99.5	121	2	US-08-489-666C-7
2	629	99.5	121	2	US-08-911-092-7
3	629	99.5	121	2	US-08-485-001B-7
4	629	99.5	121	3	US-08-454-121A-7
5	629	99.5	121	3	US-08-482-161B-7
6	629	99.5	121	3	US-09-057-963A-6
7	86.5	13.7	757	4	US-09-252-991A-25918
8	85	13.4	488	4	US-09-252-991A-30531
9	83.5	13.2	133	4	US-09-252-991A-25561
10	83.5	13.2	384	4	US-09-252-991A-24427
11	82.5	13.1	222	4	US-09-252-991A-27628
12	81.5	12.9	135	4	US-09-252-991A-29784
13	81	12.8	160	4	US-09-270-767-41118
14	81	12.8	160	4	US-09-270-767-56334
15	81	12.8	195	4	US-09-252-991A-26926
16	80	12.7	288	4	US-09-270-767-46140
17	79.5	12.6	694	3	US-08-559-397A-31
18	78.5	12.4	205	4	US-09-270-767-59394
19	78.5	12.4	380	4	US-09-270-767-43987
20	77	12.2	348	3	US-09-315-794-42
21	77	12.2	348	3	US-09-389-341-42
22	76.5	12.1	156	4	US-09-252-991A-20938
23	76.5	12.1	222	4	US-09-252-991A-32998
24	75.5	11.9	285	4	US-09-252-991A-22267
25	74.5	11.8	373	4	US-09-252-991A-29008
26	74	11.7	139	4	US-09-252-991A-18940
27	74	11.7	154	4	US-09-252-991A-23167

28	74	11.7	196	4	US-09-252-991A-23646
29	74	11.7	491	1	US-07-903-103-2
30	74	11.7	491	1	US-08-044-619A-2
31	74	11.7	491	1	US-08-283-911-2
32	74	11.7	491	1	US-08-245-500A-3
33	74	11.7	491	1	US-08-390-546-3
34	74	11.7	491	1	US-08-390-479A-3
35	74	11.7	491	1	US-08-557-393-3
36	74	11.7	491	1	US-08-390-516C-3
37	74	11.7	491	1	US-08-390-517A-3
38	74	11.7	491	1	US-08-390-515A-3
39	74	11.7	491	2	US-08-801-718-3
40	74	11.7	491	3	US-09-170-159A-3
41	74	11.7	491	4	US-09-480-718-44
42	74	11.7	989	4	US-09-252-991A-17435
43	73.5	11.6	140	4	US-09-252-991A-28280
44	73.5	11.6	246	4	US-09-252-991A-27629
45	73.5	11.6	882	3	US-09-413-814-78

ALIGNMENTS

RESULT 1
US-08-489-666C-7
; Sequence 7, Application US/08489666C
; Patent No.: 5922600
; GENERAL INFORMATION:
; APPLICANT: NO. 5922600eborn, M.H.M
; APPLICANT: Koch, G.
; TITLE OF INVENTION: Chicken Anemia Virus mutants and
; TITLE OF INVENTION: vaccines and uses based on the viral proteins VP1, VP2 and
; TITLE OF INVENTION: VP3 or sequences of that virus coding therefor.
; NUMBER OF SEQUENCES: 30
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: RAE-VENTER LAW, P.C.
; STREET: 260 SHERIDAN AVE., P.O. BOX 60039
; CITY: PALO ALTO
; STATE: CA
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM: Floppy disk
; MEDIUM TYPE: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/489,666C
; FILING DATE: 07-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/454,121
; FILING DATE: 30-NOV-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/030,335
; FILING DATE: 08-MAR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL 94/00168
; FILING DATE: 19-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL 91/00165
; FILING DATE: 11-SEP-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9301272
; FILING DATE: 20-JUL-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9002008
; FILING DATE: 12-SEP-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: RAE-VENTER, BARBARA
; REGISTRATION NUMBER: 32,750
; REFERENCE/DOCKET NUMBER: LEBV.003.04US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (650)328-4400

```

; TELEFAX: (650) 328-4477
; TELEX: N/A
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; STRANDEDNESS: unknown
; TOPOLOGY: unknown
; MOLECULE TYPE: protein
; HYPOTHETICAL: NO
; US-08-489-666C-7

Query Match          99.5%; Score 629; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 9.8e-66;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
Db 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
QY 61 TADNSESTGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKSLITTPSRPTARRR 120
Db 61 TADNSESTGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKSLITTPSRPTARRR 120
QY 121 L 121
Db 121 L 121

RESULT 2
US-08-911-092-7
; Sequence 7, Application US/08911092
; Patent No. 5952002
; GENERAL INFORMATION:
; APPLICANT: No. 5952002eborn, Matheus H.M.
; APPLICANT: Koch, Guss
; TITLE OF INVENTION: Chicken Anemia Virus Mutants And Vaccines
; TITLE OF INVENTION: And Uses Based On The Viral Proteins VP1, VP2, And VP3 Or
; TITLE OF INVENTION: Sequences Of That Virus Coding Therefor
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Rae-Venter Law Group, P.C.
; STREET: P.O. Box 60039
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/911.092
; FILING DATE: 14-AUG-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/454,121
; FILING DATE: 30-NOV-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL94/00168
; FILING DATE: 19-JULY-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9301272
; FILING DATE: 20-JULY-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/030,335
; FILING DATE: 8-MAR-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL91/00165
; FILING DATE: 11-SEP-1991

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; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9002008
; FILING DATE: 12-SEP-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Rae-Venter, Barbara
; REGISTRATION NUMBER: 32,750
; REFERENCE/DOCKET NUMBER: LEBV003.00US1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (650) 328-4400
; TELEFAX: (650) 328-4477
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: unknown
; MOLECULE TYPE: protein
; HYPOTHETICAL: NO
; US-08-911-092-7

Query Match          99.5%; Score 629; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 9.8e-66;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
Db 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLSA 60
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QY 121 L 121
Db 121 L 121

RESULT 3
US-08-485-001B-7
; Sequence 7, Application US/08485001B
; Patent No. 5981502
; GENERAL INFORMATION:
; APPLICANT: No. 5981502eborn, Matheus H.M.
; APPLICANT: Koch, Guss
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR INDUCING
; TITLE OF INVENTION: APOPTOSIS IN TUMOR CELLS
; NUMBER OF SEQUENCES: 29
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Rae-Venter Law Group, P.C.
; STREET: P.O. Box 60039
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/485,001B
; FILING DATE: 07-JUNE-1995
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/454,121
; FILING DATE: 30-NOVEMBER-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL94/00168
; FILING DATE: 19-JULY-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/030,335
; FILING DATE: 8-MARCH-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9301272

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;; FILING DATE: 20-JULY-1993
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: PCT/NL91/00165
;; FILING DATE: 11-SEPTEMBER-1991
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: NL 9002008
;; FILING DATE: 12-SEPTEMBER-1990
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Rae-Venter, Barbara
;; REGISTRATION NUMBER: 32,750
;; REFERENCE/DOCKET NUMBER: LEBV.003.02US
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (650) 926-6205
;; TELEFAX: (650) 424-8760
;; INFORMATION FOR SEQ ID NO: 7:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 121 amino acids
;; TYPE: amino acid
;; TOPOLOGY: unknown
;; MOLECULE TYPE: protein
;; HYPOTHETICAL: NO
US-08-485-001B-7

Query Match 99.5%; Score 629; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 9.8e-66;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60

QY 61 TADNSESTGKKNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
DB 61 TADNSESTGKKNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120

QY 121 L 121
DB 121 L 121

RESULT 4
US-08-454-121A-7
; Sequence 7, Application US/08454121A
; Patent No. 6071520
; GENERAL INFORMATION:
; APPLICANT: No. 6071520eborn, Matheus H.M.
; APPLICANT: Koch, Guus
; TITLE OF INVENTION: Chicken Anemia Virus Mutants And Vaccines
; TITLE OF INVENTION: And Uses Based On The Viral Proteins VP1, VP2, And VP3 Or
; TITLE OF INVENTION: Sequences Of That Virus Coding Therefor
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Rae-Venter Law Group, P.C.
; STREET: P.O. Box 60039
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/454,121A
; FILING DATE: 07-JUNE-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/NL94/00168
; FILING DATE: 19-JULY-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: NL 9301272
; FILING DATE: 20-JULY-1993

;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: US 08/030,335
;; FILING DATE: 8-MAR-1993
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: PCT/NL91/00165
;; FILING DATE: 11-SEP-1991
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: NL 9002008
;; FILING DATE: 12-SEP-1990
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Rae-Venter, Barbara
;; REGISTRATION NUMBER: 32,750
;; REFERENCE/DOCKET NUMBER: LEBV.003.00US
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (650) 328-4400
;; TELEFAX: (650) 328-4477
;; INFORMATION FOR SEQ ID NO: 7:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 121 amino acids
;; TYPE: amino acid
;; TOPOLOGY: unknown
;; MOLECULE TYPE: protein
;; HYPOTHETICAL: NO
US-08-454-121A-7

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Best Local Similarity 99.2%; Pred. No. 9.8e-66;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSA 60

QY 61 TADNSESTGKKNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
DB 61 TADNSESTGKKNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120

QY 121 L 121
DB 121 L 121

RESULT 5
US-08-482-161B-7
; Sequence 7, Application US/08482161B
; Patent No. 6162461
; GENERAL INFORMATION:
; APPLICANT: No. 6162461eborn, Matheus H.M.
; APPLICANT: Koch, Guus
; TITLE OF INVENTION: Chicken Anemia Virus Mutants And Vaccines
; TITLE OF INVENTION: And Uses Based On The Viral Proteins VP1, VP2, And VP3 Or
; TITLE OF INVENTION: Sequences Of That Virus Coding Therefor
; NUMBER OF SEQUENCES: 30
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Rae-Venter Law Group, P.C.
; STREET: P.O. Box 60039
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/482,161B
; FILING DATE: 07-JUNE-1995
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/454,121
; FILING DATE: 30-NOVEMBER-1995
; PRIOR APPLICATION DATA:

APPLICATION NUMBER: PCT/NL 94/00168
FILING DATE: 19-JULY-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/030,335
FILING DATE: 08-MARCH-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NL 9301272
FILING DATE: 20-JULY-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/NL 91/00165
FILING DATE: 11-SEPTEMBER-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NL 9002008
FILING DATE: 12-SEPTEMBER-1990
ATTORNEY/AGENT INFORMATION:
NAME: Rae-Venter, Barbara
REGISTRATION NUMBER: 32,750
REFERENCE/DOCKET NUMBER: LEBV.003.01US
TELEPHONE: (650) 926-6205
TELEFAX: (650) 424-8760
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 121 amino acids
TYPE: amino acid
TOPOLOGY: unknown
MOLECULE TYPE: protein
HYPOTHETICAL: NO
US-08-482-161B-7

Query Match 99.5%; Score 629; DB 3; Length 121;
Best Local Similarity 99.2%; Pred. No. 9.8e-66;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

QY 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120
Db 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120

QY 121 L 121
Db 121 L 121

RESULT 6
US-09-057-963A-6
Sequence 6, Application US/09057963A
Patent No. 6217870
GENERAL INFORMATION:
APPLICANT: No. 6217870eborn, M.H.M
APPLICANT: Koch, G.
TITLE OF INVENTION: Chicken Anemia Virus mutants and
TITLE OF INVENTION: vaccines and uses based on the viral proteins VP1, VP2 and
TITLE OF INVENTION: VP3 or sequences of that virus coding therefor.
NUMBER OF SEQUENCES: 30
CORRESPONDENCE ADDRESS:
ADDRESSEE: RAE-VENTER LAW GROUP, P.C.
STREET: P.O. BOX 60039
CITY: PALO ALTO
STATE: CA
COUNTRY: USA
ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/057,963A
FILING DATE: 09-APR-1998

CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/489,666
FILING DATE: 07-JUN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/454,121
FILING DATE: 30-NOV-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/030,335
FILING DATE: 08-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/NL 94/00168
FILING DATE: 19-JUL-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/NL 91/00165
FILING DATE: 11-SEP-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NL 9301272
FILING DATE: 20-JUL-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: NL 9002008
FILING DATE: 12-SEP-1990
ATTORNEY/AGENT INFORMATION:
NAME: RAE-VENTER, BARBARA
REGISTRATION NUMBER: 32,750
REFERENCE/DOCKET NUMBER: LEBV.003.04US
TELEPHONE: (650)328-4400
TELEFAX: (650)328-4477
TELEX: N/A
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 121 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: not relevant
MOLECULE TYPE: protein
HYPOTHETICAL: NO
US-09-057-963A-6

Query Match 99.5%; Score 629; DB 3; Length 121;
Best Local Similarity 99.2%; Pred. No. 9.8e-66;
Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

QY 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120
Db 61 TADNSETGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120

QY 121 L 121
Db 121 L 121

RESULT 7
US-09-252-991A-25918
Sequence 25918, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
PRIOR FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142

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; SEQ ID NO 25918
; LENGTH: 757
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-25918

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Best Local Similarity 27.9%; Pred. No. 0.22;
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QY 55 ---PTLSATADNSESTGFKNVPLDRTDQPKPSPKSCDPSEYRVSELKESLITTPSR 111
Db 432 GRFGQSGSRRRPARPRRPGPPRTDQOQPLHRQPCRP-----RLWHRGPAH 481
QY 112 PRTARRRIR 120
Db 482 PRRRRRRMR 490

RESULT 8
US-09-252-991A-30531
; Sequence 30531, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
; APPLICANT: Marc J. Rubenfield et al.
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
; TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
; CURRENT FILING DATE: 1999-02-18
; PRIOR APPLICATION NUMBER: US 60/074,788
; PRIOR FILING DATE: 1998-02-18
; PRIOR APPLICATION NUMBER: US 60/094,190
; PRIOR FILING DATE: 1998-07-27
; NUMBER OF SEQ ID NOS: 33142
; SEQ ID NO 30531
; LENGTH: 488
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-30531

Query Match      13.4%; Score 85; DB 4; Length 488;
Best Local Similarity 30.3%; Pred. No. 0.18;
Matches 37; Conservative 10; Mismatches 41; Indels 34; Gaps 7;

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Db 1 PP-----PPTSS-----ARAKRVGTGIRPNSTSNRPPISSALGCATTCSPWMLPR 48
QY 61 TANSEST-----GFKNVPLDRTDQKPP-SKGRSCDPSEYRVSELKESLITTPSR 111
Db 49 SADSSDTRGRDPCGDGDQORHLR-DQPSPTVSTAYSCSAS-----AVLRPFVCVTWAMP 103
QY 112 PR 113
Db 104 PR 105

RESULT 9
US-09-252-991A-25561
; Sequence 25561, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
; APPLICANT: Marc J. Rubenfield et al.
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
; TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
; CURRENT FILING DATE: 1999-02-18
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; PRIOR APPLICATION NUMBER: US 60/074,788
; PRIOR FILING DATE: 1998-02-18
; PRIOR APPLICATION NUMBER: US 60/094,190
; PRIOR FILING DATE: 1998-07-27
; NUMBER OF SEQ ID NOS: 33142
; SEQ ID NO 25561
; LENGTH: 133
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-25561

Query Match      13.2%; Score 83.5; DB 4; Length 133;
Best Local Similarity 27.5%; Pred. No. 0.048;
Matches 33; Conservative 12; Mismatches 36; Indels 39; Gaps 7;

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Db 3 PTPSTPAITSSCR-TVGIA-----TAATSCSNPTKARTRSASRVNISTDSDSIPVSPT 56
QY 65 ---SESTGFKNVPLDRTDQKPPSKRSCDPSEYRVSELKESLITTPSRPRTARRIRL 121
Db 57 SRFMKRTARRKTPSTTANRTPPS-----PTPTRASR-----PRPRATRKRKSRV 100

RESULT 10
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; Sequence 24427, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
; APPLICANT: Marc J. Rubenfield et al.
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
; TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
; CURRENT FILING DATE: 1999-02-18
; PRIOR APPLICATION NUMBER: US 60/074,788
; PRIOR FILING DATE: 1998-02-18
; PRIOR APPLICATION NUMBER: US 60/094,190
; PRIOR FILING DATE: 1998-07-27
; NUMBER OF SEQ ID NOS: 33142
; SEQ ID NO 24427
; LENGTH: 384
; TYPE: PRT
; ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-24427

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Best Local Similarity 25.0%; Pred. No. 0.2;
Matches 38; Conservative 21; Mismatches 36; Indels 57; Gaps 9;

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QY 50 ANARAPTILRSATADNSEST-----GFKNVPLDRTDQK-KPPSKK-----R 88
Db 99 ASSRALLISALCACSAASTSMPATGAGARN-----SQAPMKPPANRLAPTQAPASISNR 153
QY 89 SCDPSEYRV--SELKESLITTPS-PRRTARR 117
Db 154 GCRWTERAAPWCRLRKQMCMTYPSYGFPAVAKR 185

RESULT 11
US-09-252-991A-27628
; Sequence 27628, Application US/09252991A
; Patent No. 6551795
; GENERAL INFORMATION:
; APPLICANT: Marc J. Rubenfield et al.
; TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
; TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
; FILE REFERENCE: 107196.136
; CURRENT APPLICATION NUMBER: US/09/252,991A
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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 23, 2004, 11:03:37 ; Search time 145 Seconds
(without alignments)
299.677 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632

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Searched: 1595201 seqs, 359116952 residues

Total number of hits satisfying chosen parameters: 1595201

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:*

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- 3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep.*
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- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep.*
- 12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep.*
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- 14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep.*
- 15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep.*
- 16: /cgn2_6/ptodata/2/pubpaa/US10D_PUBCOMB.pep.*
- 17: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep.*
- 18: /cgn2_6/ptodata/2/pubpaa/US11_NEW_PUB.pep.*
- 19: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep.*
- 20: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
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3	627	99.2	121	14	US-10-083-849B-10
4	627	99.2	121	14	US-10-083-849B-11
5	627	99.2	121	14	US-10-083-849B-12
6	626	99.1	121	14	US-10-083-849B-14
7	626	99.1	121	14	US-10-083-849B-15
8	626	99.1	121	14	US-10-083-849B-16
9	624	98.7	121	14	US-10-083-849B-13
10	622	98.4	121	14	US-10-083-849B-17
11	622	98.4	121	14	US-10-083-849B-18
12	622	98.4	121	14	US-10-083-849B-19
13	621	98.3	134	17	US-10-738-423-58

14	621	98.3	140	17	US-10-738-423-60	Sequence 60, Appl
15	621	98.3	140	17	US-10-113-790-1	Sequence 1, Appl
16	616	97.5	133	9	US-09-949-780-4	Sequence 4, Appl
17	616	97.5	133	9	US-09-949-780-6	Sequence 6, Appl
18	616	97.5	511	9	US-09-949-780-2	Sequence 2, Appl
19	608	96.2	121	14	US-10-083-849B-5	Sequence 5, Appl
20	607	96.0	121	14	US-10-083-849B-6	Sequence 6, Appl
21	607	96.0	121	14	US-10-083-849B-8	Sequence 8, Appl
22	606	95.9	121	14	US-10-083-849B-7	Sequence 7, Appl
23	604	95.6	121	14	US-10-083-849B-9	Sequence 9, Appl
24	602	95.3	121	14	US-10-083-849B-3	Sequence 3, Appl
25	598	94.6	121	14	US-10-083-849B-4	Sequence 4, Appl
26	103	16.3	223	16	US-10-437-963-130571	Sequence 190571,
27	93.5	14.8	223	16	US-10-437-963-163025	Sequence 163025,
28	90	14.2	206	16	US-10-437-963-120157	Sequence 120157,
29	85.5	13.5	209	16	US-10-437-963-108424	Sequence 108424,
30	84.5	13.4	287	16	US-10-437-963-162402	Sequence 162402,
31	83	13.1	335	16	US-10-437-963-157638	Sequence 157638,
32	83	13.1	377	14	US-10-149-819-7	Sequence 7, Appl
33	83	13.1	377	15	US-10-312-352-30	Sequence 30, Appl
34	83	13.1	625	16	US-10-437-963-143626	Sequence 143626,
35	82.5	13.1	625	16	US-10-437-963-165015	Sequence 165015,
36	82	13.0	165	16	US-10-437-963-113213	Sequence 113213,
37	82	13.0	168	16	US-10-437-963-150263	Sequence 150263,
38	81.5	12.9	216	16	US-10-767-701-57343	Sequence 57343, A
39	81.5	12.9	268	16	US-10-437-963-149247	Sequence 149247,
40	81.5	12.9	5317	16	US-10-668-767-59	Sequence 59, Appl
41	81	12.8	195	16	US-10-437-963-123418	Sequence 123418,
42	81	12.8	210	16	US-10-767-701-43838	Sequence 43838, A
43	81	12.8	897	16	US-10-437-963-189801	Sequence 189801,
44	80.5	12.7	203	17	US-10-425-115-222583	Sequence 222583,
45	80.5	12.7	315	15	US-10-425-114-66407	Sequence 66407, A

ALIGNMENTS

RESULT 1

US-10-083-849B-1
; Sequence 1, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 1
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (1)..(121)
; OTHER INFORMATION: Apoptin (a small protein derived from chicken anemia virus) encodes
; OTHER INFORMATION: ed by pCMV-Vp3 and by GFP-Apoptin constructs
US-10-083-849B-1

Query Match 100.0%; Score 632; DB 14; Length 121;
Best Local Similarity 100.0%; Pred. No. 1.8e-55;
Matches 121; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGAGITITLSLGCANARAPTURSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGAGITITLSLGCANARAPTURSA 60


```
RESULT 5
US-10-083-849B-12
; Sequence 12, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 12
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T108A of Apoptin
US-10-083-849B-12
Query Match          99.2%; Score 627; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 5.7e-55;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
QY 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRIR 120
DB 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRIR 120
QY 121 L 121
DB 121 L 121

RESULT 6
US-10-083-849B-14
; Sequence 14, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 14
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T106E of Apoptin
US-10-083-849B-14
Query Match          99.1%; Score 626; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 7.2e-55;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
QY 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRIR 120
DB 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRIR 120
QY 121 L 121
DB 121 L 121

RESULT 7
US-10-083-849B-15
; Sequence 15, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 15
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T107E of Apoptin
US-10-083-849B-15
Query Match          99.1%; Score 626; DB 14; Length 121;
Best Local Similarity 99.2%; Pred. No. 7.2e-55;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTILRSA 60
QY 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRIR 120
DB 61 TADNSESTGKPNVPLDRTDQPKPPSKRSCDPSEYRVSELKESLITTTSPSRPTARRIR 120
QY 121 L 121
DB 121 L 121

RESULT 8
US-10-083-849B-16
; Sequence 16, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083,849B
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
```

```
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 16
; TYPE: PRT
; LENGTH: 121
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant T108E of Apoptin
US-10-083-849B-16

Query Match
Best Local Similarity 99.1%; Score 626; DB 14; Length 121;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

QY 61 TADNSESTGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRIR 120
Db 61 TADNSESTGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRIR 120

QY 121 L 121
Db 121 L 121

RESULT 9
US-10-083-849B-13
; Sequence 13, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009Aleborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 13
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: single point mutant P109A of Apoptin
US-10-083-849B-13

Query Match
Best Local Similarity 98.7%; Score 624; DB 14; Length 121;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

QY 61 TADNSESTGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRIR 120
Db 61 TADNSESTGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRIR 120

QY 121 L 121
Db 121 L 121
```

```
RESULT 10
US-10-083-849B-17
; Sequence 17, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009Aleborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 17
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: double point mutation T106A107A of Apoptin
US-10-083-849B-17

Query Match
Best Local Similarity 98.4%; Score 622; DB 14; Length 121;
Matches 119; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

QY 61 TADNSESTGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRIR 120
Db 61 TADNSESTGFKNVPLDRTDQPKPKSKRSCDPSEYRVSELKESLIITTPSRPRTARRIR 120

QY 121 L 121
Db 121 L 121

RESULT 11
US-10-083-849B-18
; Sequence 18, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009Aleborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 18
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: double point mutant T107A108A of Apoptin
US-10-083-849B-18

Query Match
Best Local Similarity 98.4%; Score 622; DB 14; Length 121;
```

Best Local Similarity 98.3%; Pred. No. 1.8e-54;
Matches 119; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
QY 61 TADNSETGKFNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPRTARRIR 120
DB 61 TADNSETGKFNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPRTARRIR 120
QY 121 L 121
DB 121 L 121

RESULT 12
US-10-083-849B-19
; Sequence 19, Application US/10083849B
; Publication No. US20030199009A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030199009A1eborn, Mathieu
; APPLICANT: Rohn, Jennifer Leigh
; APPLICANT: Mumberg, Dominik
; APPLICANT: Donner, Peter
; TITLE OF INVENTION: Modifications of Apoptin
; FILE REFERENCE: 2906-4996.1
; CURRENT APPLICATION NUMBER: US/10/083.849B
; CURRENT FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/242,397
; PRIOR FILING DATE: 2000-10-20
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 19
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Chicken anemia virus
; FEATURE:
; NAME/KEY: MUTAGEN
; LOCATION: (1)..(121)
; OTHER INFORMATION: double point mutant T106A108A of Apoptin
US-10-083-849B-19

Query Match 98.4%; Score 622; DB 14; Length 121;
Best Local Similarity 98.3%; Pred. No. 1.8e-54;
Matches 119; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
QY 61 TADNSETGKFNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPRTARRIR 120
DB 61 TADNSETGKFNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPRTARRIR 120
QY 121 L 121
DB 121 L 121

RESULT 13
US-10-738-423-58
; Sequence 58, Application US/10738423
; Publication No. US20040229338A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059

; CURRENT APPLICATION NUMBER: US/10/738,423
; CURRENT FILING DATE: 2003-12-16
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 58
; LENGTH: 134
; TYPE: PRT
; ORGANISM: Bacteriophage
US-10-738-423-58

Query Match 98.3%; Score 621; DB 17; Length 134;
Best Local Similarity 98.3%; Pred. No. 2.6e-54;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
DB 14 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 73
QY 61 TADNSETGKFNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPRTARRIR 120
DB 74 TADNSETGKFNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPRTARRIR 133
QY 121 L 121
DB 134 L 134

RESULT 14
US-10-738-423-60
; Sequence 60, Application US/10738423
; Publication No. US20040229338A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059
; CURRENT APPLICATION NUMBER: US/10/738,423
; CURRENT FILING DATE: 2003-12-16
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 60
; LENGTH: 140
; TYPE: PRT
; ORGANISM: Bacteriophage
US-10-738-423-60

Query Match 98.3%; Score 621; DB 17; Length 140;
Best Local Similarity 98.3%; Pred. No. 2.7e-54;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
DB 20 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 79
QY 61 TADNSETGKFNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPRTARRIR 120
DB 80 TADNSETGKFNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPRTARRIR 139

QY 121 L 121
|
Db 140 L 140

RESULT 15
US-10-113-790-1
; Sequence 1, Application US/10113790
; Publication No. US20020176860A1
; GENERAL INFORMATION:
; APPLICANT: No. US20020176860Aleborn, Mathieu H.M.
; APPLICANT: Renes, Johan
; APPLICANT: Zhang, Ying-Hui
; TITLE OF INVENTION: FUSION PROTEINS FOR SPECIFIC TREATMENT OF CANCER AND AUTO-IMMUNE
; FILE REFERENCE: 4819.1US (P55985US10)
; CURRENT APPLICATION NUMBER: US/10/113,790
; CURRENT FILING DATE: 2002-03-29
; PRIOR APPLICATION NUMBER: US 60/280,229
; PRIOR FILING DATE: 2001-03-30
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 523
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Apoptin-TK fusion protein
US-10-113-790-1

Query Match 98.3%; Score 621; DB 13; Length 523;
Best Local Similarity 98.3%; Pred. No. 1.3e-53;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPGSRSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLSA 60
|
Db 1 MNALQEDTPGSRSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLSA 60
|
QY 61 TADNSETGFKNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPTAKRRIR 120
|
Db 61 TADNSETGFKNVPDLRTDQPKPSKRCSDPSEYRVSELKESLIITTPSRPTAKRRIR 120
|
QY 121 L 121
|
Db 121 L 121

Search completed: December 23, 2004, 11:16:00
Job time: 146 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 23, 2004, 10:52:36 ; Search time 39 Seconds
(without alignments)

298.519 Million cell updates/sec

Title: US-10-083-849B-1

Perfect score: 632

Sequence: 1 MNALQBDTPPGSTVFRPPT.....ESLITTPSRPTARRRRL 121

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : PIR 79:*

1: pir1:*

2: pir2:*

3: pir3:*

4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	629	99.5	121	2 B39926	hypothetical prote
2	616	97.5	121	2 B48343	hypothetical 13K p
3	84	13.3	247	2 T32514	hypothetical prote
4	83	13.1	377	2 A48018	mucin 7 precursor,
5	81.5	12.9	982	2 T13653	hypothetical prote
6	80.5	12.7	748	2 D84595	pEARL1 4 protein f
7	80.5	12.7	3570	2 T45025	mucin MUC5B, trach
8	80	12.7	1388	2 A53317	collagen alpha 1(X
9	79.5	12.6	939	2 S28394	probable serine/th
10	79.5	12.6	1082	2 T15269	hypothetical prote
11	78.5	12.4	202	2 D70752	probable lipR prot
12	78.5	12.4	475	2 D86209	protein F22G5.18 f
13	78.5	12.4	587	2 T29324	hypothetical prote
14	78	12.3	278	2 T46458	hypothetical prote
15	77	12.2	348	2 S38148	hypothetical prote
16	76.5	12.1	182	2 T30760	hypothetical prote
17	76.5	12.1	417	2 S47539	homeotic protein H
18	76.5	12.1	587	2 T19893	hypothetical prote
19	76.5	12.1	1469	2 T09219	basal transcriptio
20	75.5	11.9	481	2 S47091	cyclase-associated
21	75.5	11.9	699	2 C43674	US4 protein - huma
22	75	11.9	667	2 T17221	hypothetical prote
23	74.5	11.8	353	2 A41558	N-syndecan - rat (
24	74	11.7	491	1 S24354	p53-binding protei
25	73.5	11.6	786	1 A47547	serine proteinase
26	73	11.6	173	2 S62349	I71-3 protein - fr
27	73	11.6	493	2 S36488	E2 protein - human
28	73	11.6	631	2 A54659	DNA repair protein
29	72.5	11.5	416	2 S27198	homeotic protein H

ALIGNMENTS

RESULT 1

B39926

hypothetical protein 2 - chicken anemia virus

C;Species: chicken anemia virus, CAV

C;Date: 17-Jan-1992 #sequence_revision 17-Jan-1992 #text_change 09-Jul-2004

C;Accession: B39926

R;Noteborn, M.H.M.; de Boer, G.F.; van Roozelaar, D.J.; Kranenburg, O.; V.

J. Virol. 65, 3131-3139, 1991

A;Title: Characterization of cloned chicken anemia virus DNA that contains all elements

A;Reference number: A39926; MUID:91237831; PMID:1851873

A;Accession: B39926

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-121 <NOT>

A;Cross-references: UNIPROT:Q99152; GB:M55918; NID:G323250; PIDN:AAA1823.1; PID:G32325

C;Comment: This virus is unclassified.

Query Match 99.5%; Score 629; DB 2; Length 121;

Best Local Similarity 99.2%; Pred. No. 2.1e-52;

Matches 120; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNALQBDTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLCGCANARAPTILRSA 60

Db 1 MNALQBDTPPGSTVFRPPTSRPLETPHCRIRIGIAGITITLSLCGCANARAPTILRSA 60

QY 61 TADNSESTGKQVDPDRTDQPPSKKSCDPSSEYRVSSELKSLITTTSPRPTARRIR 120

Db 61 TADNSESTGKQVDPDRTDQPPSKKSCDPSSEYRVSSELKSLITTTSPRPTARRIR 120

QY 121 L 121

Db 121 L 121

RESULT 2

B48343

hypothetical 13K protein - chicken anemia virus (isolate Cux-1)

C;Species: chicken anemia virus, CAV

C;Date: 17-Feb-1994 #sequence_revision 16-Apr-1999 #text_change 09-Jul-2004

C;Accession: B48343

R;Meenan, B.M.; Todd, D.; Creslan, J.L.; Earle, J.A.; Hoey, E.M.; McNulty, M.S.

Arch. Virol. 124, 301-319, 1992

A;Title: Characterization of viral DNAs from cells infected with chicken anaemia agent:

A;Reference number: A48343; MUID:92296898; PMID:1605740

A;Accession: B48343

A;Molecule type: DNA

A;Residues: 1-121 <NEE>

A;Cross-references: UNIPROT:Q99152; GB:M81223; NID:G323254; PIDN:AAA42883.1; PID:G32325

A;Note: the authors translated the codon ACA for residue 41 as Gly

A;Note: sequence extracted from NCBI backbone (NCBIN:106168, NCBIPI:106170)

Query Match 97.5%; Score 616; DB 2; Length 121;

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Best Local Similarity 99.3%; Pred. No. 3.5e-51;
Matches 119; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MNALQEDTPGSPVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAPTLRSA 60
   |||||
Db 1 MNALQEDTPGSPVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAPTLRSA 60
   |||||

QY 61 TADNSETGKPNVPLDRTDQPKPSKRCSDPSEYRVSELKESLITTPSRPTARRRIR 120
   |||||
Db 61 TADNSETGKPNVPLDRTDQPKPSKRCSDPSEYRVSELKESLITTPSRPTARRRIR 120
   |||||

QY 121 L 121
   |
Db 121 L 121
   |

RESULT 3
T32514
hypothetical protein C44B12.1 - Caenorhabditis elegans
C:Species: Caenorhabditis elegans
C:Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 09-Jul-2004
C:Accession: T32514
R:Tin-Wollam, A.
submitted to the EMBL Data Library, December 1997
A:Description: The sequence of C. elegans cosmid C44B12.
A:Reference number: Z21183
A:Accession: T32514
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-247 <TIN>
A:Cross-references: UNIPROT:O44145; EMBL:AF036692; PIDN:AAB88324.1; GSPDB:GN00022; CESP:
A:Experimental source: strain Bristol N2; clone C44B12
C:Genetics:
A:Gene: CESP:C44B12.1
A:Map position: 4
A:Introns: 28/3; 82/1; 164/1; 192/1
C:Superfamily: Caenorhabditis elegans hypothetical protein C44B12.1

Query Match 13.1%; Score 84; DB 2; Length 247;
Best Local Similarity 29.7%; Pred. No. 1.2; Indels 24; Gaps 6;
Matches 35; Conservative 13; Mismatches 46; Indels 24; Gaps 6;

QY 2 NALQEDTPP-GPSTVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAPTLRSA 60
   |||||
Db 109 NNQYDAPAYGSPFIQRP-----RFFERQACRN-----TAIYQESQNCSCSISSRAA 156
   : : : : :

QY 61 TADNSETGKPNVPLDRTD-----QPKPPSK-----RSCDPSEYRVSELKESLITTP 109
   : : : : :
Db 157 GSSSVSAESRRNSDDLRLPEAVRQEAPOGGRRLKLARPC--SSMRVLHLEKSVIQLIP 212
   : : : : :

RESULT 4
A48018
mucin 7 precursor, salivary - human
N:Alternate names: mucin, MG2; mucin, MG2a-T1; mucin, MG2a-T2; mucin, MG2b-T2
C:Species: Homo sapiens (man)
C:Date: 16-Feb-1994 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004
C:Accession: A48018; S29115; S29116; S29114
R:Bobek, L.A.; Tsai, H.; Biesbrock, A.R.; Levine, M.J.
J. Biol. Chem. 268, 20563-20569, 1993
A:title: Molecular cloning, sequence, and specificity of expression of the gene encoding
A:Reference number: A48018; MUID:93388636; PMID:7690757
A:Accession: A48018
A:Molecule type: mRNA
A:Residues: 1-377 <BOB>
A:Cross-references: UNIPROT:Q9UC08; GB:I13283
A:Experimental source: submandibular gland
A>Note: sequence extracted from NCBI backbone (NCBIN:137719, NCBI:P137720)
R:Reddy, M.S.; Bobek, L.A.; Haraerthy, G.G.; Biesbrock, A.R.; Levine, M.J.
Biochem. J. 287, 639-643, 1992
A:title: Structural features of the low-molecular-mass human salivary mucin.
A:Reference number: S29114; MUID:93075006; PMID:1445223
A:Accession: S29115
```

```
A:Molecule type: mRNA
A:Residues: 143-168 <RED>
A:Accession: S29116
A:Molecule type: protein
A:Residues: 'S',71-79,'N',81-86,'XX',89,'X',91,'P' <RE2>
A:Accession: S29114
A:Molecule type: protein
A:Residues: 143-145,'X',147,'XXX',151-152,'X',154-158,'X',160-161,'A',163-164,'XX',167-
C:Genetics:
A:Gene: GDB:MUC7
A:Cross-references: GDB:138799; OMIM:158375
A:Map position: 4q13-4q21
C:Keywords: glycoprotein
F:1-18/Domain: signal sequence #status predicted <SIG>
F:19-377/Product: mucin 7, salivary #status predicted <NAT>
F:97,128,135,146,312/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 13.1%; Score 83; DB 2; Length 377;
Best Local Similarity 29.2%; Pred. No. 2.3; Indels 4; Gaps 1;
Matches 31; Conservative 8; Mismatches 63; Indels 4; Gaps 1;

QY 9 PPGSTVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAPTLRSATDNSEST 68
   |||||
Db 216 PTTPATTAPPSSAPPETTAAPTSPATPAPLSSAPPETTAVPPTSPATTLDPSSA- 274
   : : : : :

QY 69 GPKNVPLDRTDQPKPSKRCSDPSEYRVSELKESLITTPSRPT 114
   : : : : :
Db 275 ---SAPPTAAPTSPATPAPPSSAPQETTAAPTITPNSSPTT 317
   : : : : :

RESULT 5
T13653
hypothetical protein 95B7.2 - fruit fly (Drosophila melanogaster)
C:Species: Drosophila melanogaster
C:Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change 17-Nov-2000
C:Accession: T13653
R:Ferraz, C.; Vidal, S.; Brun, C.; Bucheton, A.; Demaille, J.G.
submitted to the EMBL Data Library, April 1999
A:Description: Sequencing the distal X chromosome of Drosophila melanogaster.
A:Reference number: Z17694
A:Accession: T13653
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-982 <FER>
A:Cross-references: EMBL:AL021728; NID:e13555643; PID:e1301389; PIDN:CAA16818.1
C:Genetics:
A:Cross-references: FlyBase:FBgn0000376
A:Introns: 181/1; 249/1; 774/3; 899/1; 949/3
A>Note: EG:95B7.2

Query Match 12.9%; Score 81.5; DB 2; Length 982;
Best Local Similarity 26.9%; Pred. No. 9.1; Indels 17; Gaps 5;
Matches 32; Conservative 20; Mismatches 50; Indels 17; Gaps 5;

QY 1 MNALQEDTPGSPVFRPPTSSRPLETPHCHREIRIGIAGITITLSLGCANARAP---TL 57
   |||||
Db 1 MEELSKQPPPPPLTQPPPPSSSVSIEEP-----LPNGKGGAVVN---SIAKLPEEELL 52
   : : : : :

QY 58 RSATADNSEST--GPKNVPLDRTDQPKPSKRCSDPSEYRVSELKESLITTPSRPT 114
   |||||
Db 53 GSVTWHNCPGTRASARVIOKMQDQTRWTP---PPSEREPNKKKEAAQKTPSOLKT 107
   : : : : :

RESULT 6
DB4595
PEARLI 4 protein [imported] - Arabidopsis thaliana
C:Species: Arabidopsis thaliana (mouse-ear cress)
C:Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004
C:Accession: DB4595
R:Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L.;
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter,
Nature 402, 761-768, 1999
```

A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Accession: D84595
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-748 <SPO>
A;Cross-references: UNIPROT:Q9SKR5; GB:AEO02093; NID:g4803947; PIDN:AAD29820.1; GSPDB:GN C;Genetics:
A;Map position: 2

Query Match
Best Local Similarity 12.7%; Score 80.5; DB 2; Length 748;
Matches 36; Conservative 9; Mismatches 47; Indels 33; Gaps 5;

Qy 7 DTTPGPGSTVPRPPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSATADN-- 64
||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :|||
Db 199 DTRPRTPIHESAATGRPP-QTPETR-----PRTPDHRVATYDNRP 237

Qy 65 -----SESTGPKNVDPDLRTDQKPPSKRCSDPSRYRVSELKESLIT-----TTPSRPRTA 115
:||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :|||
Db 238 RTPIHESAATERPQTETPRPTP-EHRSIAIPDRPRTPTHESAATGRRRQTPETPRPTA 296

Qy 116 RRRIR 120
:||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :|||
Db 297 QRRGR 301

RESULT 7
T45025
mucin MUC5B, tracheobronchial [imported] - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 21-Jul-2000
C;Accession: T45025
R;Desseyn, J.L.; Guyonnet-Duperat, V.; Porchet, N.; Aubert, J.P.; Laine, A.
J. Biol. Chem. 272, 3168-3178, 1997
A;Title: Human mucin gene MUC5B, the 10.7 kb large central exon encodes various alternat
A;Reference number: Z22899; MUID:97166151; PMID:9013550
A;Accession: T45025
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-3570 <DES>
A;Cross-references: EMBL:Z72496; NID:g1834502; PIDN:CAA96577.1; PID:g1834503
A;Experimental source: placenta
C;Genetics:
A;Gene: MUC5B

Query Match
Best Local Similarity 12.7%; Score 80.5; DB 2; Length 3570;
Matches 29; Conservative 10; Mismatches 56; Indels 15; Gaps 2;

Qy 8 TPQPSTVFPRPTSSRPLETPHCREIRIGIAGITITLSLGCANARAPTLRSATADNS 67
||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :|||
Db 2089 TPPPVNTATTATHGKSLPPSSH----TVPAWTSATSGILGTHTITEP-----S 2133

Qy 68 TGFKNVVDLRTDQKPPSKRCSDPSRYRVSELKESLITTTTPSRPRTARR 117
:||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :|||
Db 2134 TGTSHTPAAITGTTQPTPALSPHPSSRITESPPSGITTPGHTRGTSR 2183

RESULT 8
A53317
collagen alpha 1(XV) chain precursor - human
N;Alternate names: procollagen alpha 1(XV) chain
C;Species: Homo sapiens (man)
C;Date: 07-Jul-1995 #sequence_revision 07-Jul-1995 #text_change 09-Jul-2004
C;Accession: A53317; A53146; S28778
R;Kivirikko, S.; Heinauenaeki, P.; Rehn, M.; Honkanen, N.; Myers, J.C.; Pihlajaniemi, T.
J. Biol. Chem. 269, 4773-4779, 1994
A;Title: Primary structure of the alphas1 chain of human type XV collagen and exon-intron
A;Reference number: A53317; MUID:94148920; PMID:8106446
A;Accession: A53317
A;Status: preliminary

RT chicken anemia virus isolate by utilizing a chimeric virus approach.";
 RL J. Virol. 71:8362-8367(1997).
 RN [4]
 RA McKenna G.F.;
 RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; U66304; AAC58477.1; -;
 DR EMBL; AJ536295; CAD60259.1; -;
 DR GO; GO:0042025; C:host cell nucleus; IEA.
 DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
 DR InterPro; IPR006858; CAV_VP3.
 DR Pfam; PF04771; CAV_VP3; I.
 SQ SEQUENCE 121 AA; 13312 MW; E4AAB75960F2C5C5 CRC64;
 Query Match 99.1%; Score 626; DB 2; Length 121;
 Best Local Similarity 99.2%; Pred. No. 2, 4e-51;
 Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
 Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
 QY 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120
 Db 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120
 QY 121 L 121
 Db 121 L 121
 RESULT 5
 ID_VP3_CAVCI STANDARD; PRT; 121 AA.
 AC PS4094;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 30-MAY-2000 (Rel. 39, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Apoptin (VP3).
 OS Chicken anemia virus (USA isolate CIA-1) (CAV).
 OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
 OC NCBI_TaxID=73478;
 [1]
 SEQUENCE FROM N.A.
 RX MEDLINE=97126092; PubMed=8971016;
 RA Renshaw R.W.; Soine C.; Weinkle T.; O'Connell P.H.; Ohashi K.,
 Watson S., Lucio B., Harrington S., Schat K.A.;
 RT "A hypervariable region in VP1 of chicken infectious anemia virus
 mediates rate of spread and cell tropism in tissue culture.";
 RL J. Virol. 70:8872-8878(1996).
 RN [2]
 RP REVISION TO 50.
 RA Renshaw R.W.;
 RL Submitted (JAN-1999) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: May act as transcriptional regulator. Induces apoptosis
 in infected cells. Element of infectious replication cycle.
 CC -1- SUBCELLULAR LOCATION: Nuclear; nucleus of infected cells.
 CC
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration
 between the Swiss Institute of Bioinformatics and the EMBL outstation -
 the European Bioinformatics Institute. There are no restrictions on its
 use by non-profit institutions as long as its content is in no way
 modified and this statement is not removed. Usage by and for commercial
 entities requires a license agreement (See <http://www.ebi.ac.uk/ebis/announcement/>
 or send an email to license@ebi.ac.uk).
 CC
 CC EMBL; L14767; AAD09423.1; -;
 DR InterPro; IPR006858; CAV_VP3.
 DR Pfam; PF04771; CAV_VP3; I.
 KW Apoptosis; Nuclear protein.
 SQ SEQUENCE 121 AA; 13245 MW; D2AAB39C2BD61A3E CRC64;
 Query Match 98.7%; Score 624; DB 1; Length 121;
 Best Local Similarity 99.2%; Pred. No. 4e-51;
 Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
 Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
 QY 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120
 Db 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120
 QY 121 L 121
 Db 121 L 121
 RESULT 6
 ID_VP3_CAVCI PRELIMINARY; PRT; 121 AA.
 AC Q9DHH0;
 DT 01-MAR-2001 (TrEMBLrel. 16, Created)
 DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
 DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
 DE VP3 protein.
 DE Names=VP3;
 OS Chicken anemia virus.
 OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
 OC NCBI_TaxID=12618;
 [1]
 SEQUENCE FROM N.A.
 RX MEDLINE=21296594; PubMed=11402858;
 RA Scott A.N.J.; McNulty M.S.; Todd D.;
 RT "Characterisation of a chicken anaemia virus variant population that
 resists neutralisation with a group-specific monoclonal antibody.";
 RL Arch. Virol. 146:713-728(2001).
 DR EMBL; AJ297683; CAC14761.1; -;
 DR EMBL; AJ297679; CAC14749.1; -;
 DR EMBL; AJ297680; CAC14752.1; -;
 DR GO; GO:0042025; C:host cell nucleus; IEA.
 DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
 DR InterPro; IPR006858; CAV_VP3.
 DR Pfam; PF04771; CAV_VP3; I.
 SQ SEQUENCE 121 AA; 13272 MW; 33EFA7D7CA93013F CRC64;
 Query Match 98.7%; Score 624; DB 2; Length 121;
 Best Local Similarity 99.2%; Pred. No. 4e-51;
 Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
 Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
 QY 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120
 Db 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120
 QY 121 L 121
 Db 121 L 121
 RESULT 7
 ID_Q9DWH3 PRELIMINARY; PRT; 121 AA.
 AC Q9DWH3;
 DT 01-MAR-2001 (TrEMBLrel. 16, Created)
 DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
 DE VP3 protein.
 DE Names=VP3;
 OS Chicken anemia virus.
 OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
 OC NCBI_TaxID=12618;
 [1]
 SEQUENCE 121 AA; 13272 MW; 33EFA7D7CA93013F CRC64;
 Query Match 98.7%; Score 624; DB 2; Length 121;
 Best Local Similarity 99.2%; Pred. No. 4e-51;
 Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
 Db 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLGCANARAPTLRSA 60
 QY 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120
 Db 61 TADNSETGKQNPDLRTDQPKPKSCDPSEYRVSELKESLIITTPSRPTARRIR 120
 QY 121 L 121
 Db 121 L 121

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RN  [1]
RP  SEQUENCE FROM N.A.
RX  MEDLINE=21296594; PubMed=11402858;
RA  Scott A.N.J., McNulty M.S., Todd D.;
RT  "Characterisation of a chicken anaemia virus variant population that
RL  resists neutralisation with a group-specific monoclonal antibody.";
RL  Arch. Virol. 146:713-728(2001).
DR  EMBL; AJ297681; CAC14755.1; -
DR  GO; GO:0042025; C:host cell nucleus; IEA.
DR  InterPro; IPR006858; CAV_VP3.
DR  Pfam; PF04771; CAV_VP3; I.
SQ  SEQUENCE 121 AA; 13329 MW; A471DF69BD61A3F CRC64;

Query Match      98.7%; Score 624; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 4e-51;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy  1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db  1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

Qy  61 TADNSESTGFKNVPLDRLTDQPKPKRSKSCDPSEYRVSELKSLITTTSPRPTARRIR 120
Db  61 TADNSESTGFKNVQDLRLTDQPKPKRSKSCDPSEYRVSELKSLITTTSPRPTARRIR 120

Qy  121 L 121
Db  121 L 121

RESULT 8
Q91N81 ID Q91N81 PRELIMINARY; PRT; 121 AA.
AC Q91N81;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE VP3.
GN Name=VP3;
OS Chicken anaemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21310375; PubMed=11417817;
RA van Santen V.L., Li L., Hoerr F.J., Laueran L.H.;
RT "Genetic characterization of chicken anaemia virus from commercial
RL broiler chickens in Alabama.";
RL Avian Dis. 45:373-388(2001).
RN [2]
RP SEQUENCE FROM N.A.
RA van Santen V.L., Toro H., Hoerr F.J.;
RL Submitted (JUL-2003) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=21195622; PubMed=11297698;
RA Yamaguchi S., Imada T., Kaji N., Mase M., Tsukamoto K., Tanimura N.,
RA Yuasa N.;
RT "Identification of a genetic determinant of pathogenicity in chicken
RL anaemia virus.";
RL J. Gen. Virol. 82:1233-1238(2001).
RN [4]
RP SEQUENCE FROM N.A.
RC STRAIN=Delrose;
RA Wu Z.Q., Li G.;
RL Submitted (OCT-1999) to the EMBL/GenBank/DBJ databases.
RN [5]
RP SEQUENCE FROM N.A.
RX PubMed=14648297;
RA Chowdhury S.M., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Md-Zain B.M., Kono Y.;

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RT "Pathogenicity, sequence and phylogenetic analysis of Malaysian
RT Chicken anaemia virus obtained after low and high passages in MSB-1
RT cells.";
RL Arch. Virol. 148:2437-2448(2003).
RN [6]
RP SEQUENCE FROM N.A.
RX Chowdhury S.M.Z.H., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Kono Y., Darus A.;
RL Submitted (JUL-2000) to the EMBL/GenBank/DBJ databases.
RN [7]
RP SEQUENCE FROM N.A.
RA Spackman E., Rosenberger J.K.;
RL Submitted (OCT-2000) to the EMBL/GenBank/DBJ databases.
RN [8]
RP SEQUENCE FROM N.A.
RA Spackman E., Rosenberger J.K.;
RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.
RN [9]
RP SEQUENCE FROM N.A.
RA Chowdhury S.M.Z.H., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Kono Y.;
RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
RN [10]
RP SEQUENCE FROM N.A.
RA He C.Q., Li Y.L.;
RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
RN [11]
RP SEQUENCE FROM N.A.
RC STRAIN=Namakkal-Indian;
RA Jadhao S.J., Pattanaik B., Toshniwal R.M., Dash B.B., Pradhan H.K.;
RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases.
RN [12]
RP SEQUENCE FROM N.A.
RC STRAIN=A2;
RA Yamaguchi S., Kaji N., Munangandu H.M., Kojima C., Mase M.,
RA Tsukamoto K.;
RT "Quantitation of chicken anaemia virus by competitive polymerase chain
RT reaction.";
RL Avian Pathol. 29:305-310(2000).
DR EMBL; AF311190; AAK70849.2; -
DR EMBL; AB046587; BAB19636.1; -
DR EMBL; AB046588; BAB19639.1; -
DR EMBL; AB046589; BAB19642.1; -
DR EMBL; AB046590; BAB19645.1; -
DR EMBL; AF199501; AAF08299.1; -
DR EMBL; AF285882; AAK83007.1; -
DR EMBL; AF313470; AAG34178.1; -
DR EMBL; AF372658; AAK54239.1; -
DR EMBL; AF390038; AAL99896.1; -
DR EMBL; AF475908; AAL79914.1; -
DR EMBL; AF520788; AAM75347.1; -
DR EMBL; AB031296; EAA90490.1; -
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; I.
SQ SEQUENCE 121 AA; 13245 MW; D2AAB39C2BD61A3E CRC64;

Query Match      98.7%; Score 624; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 4e-51;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy  1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60
Db  1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCRIRIGIAGITITLSLCCGANARAPTLRSA 60

Qy  61 TADNSESTGFKNVPLDRLTDQPKPKRSKSCDPSEYRVSELKSLITTTSPRPTARRIR 120
Db  61 TADNSESTGFKNVPLDRLTDQPKPKRSKSCDPSEYRVSELKSLITTTSPRPTARRIR 120

Qy  121 L 121
Db  121 L 121

```

RESULT 9
Q8JNK4 PRELIMINARY; PRT; 121 AA.
AC Q8JNK4; 2002 (TrEMBLrel. 22, Created)
DT 01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DE 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE VP3.
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX PubMed=14648297;
RA Chowdhury S.M., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Md-Zain B.M., Kono Y.;
RT "Pathogenicity, sequence and phylogenetic analysis of Malaysian
RT Chicken anaemia virus obtained after low and high passages in MSB-1
RL cells.";
RL Arch. Virol. 148:2437-2448(2003).
RN [2]
RP SEQUENCE FROM N.A.
RA Chowdhury S.M.Z.H., Omar A.R., Aini I., Hair-Bejo M., Jamaluddin A.A.,
RA Kono Y.;
RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY040632; AAK82947.1; -;
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; 1.
SQ SEQUENCE 121 AA; 13338 MW; CD34CA7B9BD61A3E CRC64;

Query Match 98.6%; Score 623; DB 2; Length 121;
Best Local Similarity 99.2%; Pred. No. 4.9e-51;
Matches 120; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
QY 61 TADNSETGFKNPVLDLTQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
DB 61 TADNSETGFKNPVLDLTQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 10
Q75ZF9 PRELIMINARY; PRT; 121 AA.
AC Q75ZF9;
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE VP3.
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=G6;
RA Imai K., Yamaguchi S.;
RL Submitted (SEP-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB119448; BAD12197.1; -;
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; 1.
SQ SEQUENCE 121 AA; 13272 MW; DA0822253B28FAD0 CRC64;

Query Match 98.3%; Score 621; DB 2; Length 121;

Best Local Similarity 98.3%; Pred. No. 7.6e-51;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
QY 61 TADNSETGFKNPVLDLTQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
DB 61 TADNSETGFKNPVLDLTQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 11
Q9WB33 PRELIMINARY; PRT; 121 AA.
AC Q9WB33;
DT 01-NOV-1999 (TrEMBLrel. 12, Created)
DT 01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE VP3.
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=TR20;
RA Okamura H., Sakaguchi M., Tokunaga E.;
RL Submitted (MAY-1999) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BD-3;
RA Islam R.M., John R., Raue R., Todd D., Mueller H.;
RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB027470; BAA77833.1; -;
DR EMBL; AF395114; AAM20898.1; -;
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; 1.
SQ SEQUENCE 121 AA; 13272 MW; 72B7AE9C2BD60EB8 CRC64;

Query Match 98.3%; Score 621; DB 2; Length 121;
Best Local Similarity 98.3%; Pred. No. 7.6e-51;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
DB 1 MNALQEDTPPGSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLGGCANARAPTLRSA 60
QY 61 TADNSETGFKNPVLDLTQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
DB 61 TADNSETGFKNPVLDLTQPKPPSKRSCDPSEYRVSELKESLIITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 12
Q9DW8 PRELIMINARY; PRT; 121 AA.
AC Q9DW8;
DT 01-MAR-2001 (TrEMBLrel. 16, Created)
DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE VP3 protein.
GN Name=VP3;
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.

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OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21296594; PubMed=11402858;
RA Scott A.N.J., McNulty M.S., Todd D.;
RT "Characterisation of a chicken anaemia virus variant population that
RT resists neutralisation with a group-specific monoclonal antibody.";
RL Arch. Virol. 146:713-728(2001).
DR EMBL; AJ297686; CAC14770.1; -
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; 1.
SQ SEQUENCE 121 AA; 13240 MW; D7ABB05D37A61A3E CRC64;

Query Match 98.3%; Score 621; DB 2; Length 121;
Best Local Similarity 98.3%; Pred. No. 7.6e-51;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLCCGANARAPTLRSA 60
DB 1 MNALQDATPPGPTVFRPPTSSRPLETPHCREIRIGIAGITITLSLCCGANARAPTLRSA 60
QY 61 TADNSETGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120
DB 61 TADNSETGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 13
BADI2197 PRELIMINARY; PRT; 121 AA.
AC BADI2197;
DT 10-MAR-2004 (TrEMBLrel. 27, Created)
DT 10-MAR-2004 (TrEMBLrel. 27, Last sequence update)
DT 10-MAR-2004 (TrEMBLrel. 27, Last annotation update)
DE VP3.
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=G6;
RA Inai K., Yamaguchi S.;
RT "Antigenic variation among Chicken anemia virus strains.";
RL Submitted (SEP-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB119448; BADI2197.1; -.
SQ SEQUENCE 121 AA; 13272 MW; DA0822253B28FAD0 CRC64;

Query Match 98.3%; Score 621; DB 2; Length 121;
Best Local Similarity 98.3%; Pred. No. 7.6e-51;
Matches 119; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLCCGANARAPTLRSA 60
DB 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLCCGANARAPTLRSA 60
QY 61 TADNSETGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120
DB 61 TADNSETGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 14
Q9INA5 PRELIMINARY; PRT; 121 AA.
ID Q9INA5
AC Q9INA5;
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DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE VP3.
OS Chicken anemia virus.
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=12618;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21310375; PubMed=11417817;
RA van Santen V.L., Li L., Hoerr F.J., Lauerman L.H.;
RT "Genetic characterization of chicken anemia virus from commercial
RT broiler chickens in Alabama.";
RL Avian Dis. 45:373-388(2001).
RN [2]
RP SEQUENCE FROM N.A.
RA van Santen V.L., Toro H., Hoerr F.J.;
RL Submitted (JUL-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF311892; AAK70825.2; -.
DR GO; GO:0042025; C:host cell nucleus; IEA.
DR GO; GO:0019051; P:induction of apoptosis by virus; IEA.
DR InterPro; IPR006858; CAV_VP3.
DR Pfam; PF04771; CAV_VP3; 1.
SQ SEQUENCE 121 AA; 13231 MW; B4AAB39C2DD618AC CRC64;

Query Match 98.1%; Score 620; DB 2; Length 121;
Best Local Similarity 98.3%; Pred. No. 9.5e-51;
Matches 119; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MNALQEDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLCCGANARAPTLRSA 60
DB 1 MNGLEQDTPPGPSTVFRPPTSSRPLETPHCREIRIGIAGITITLSLCCGANARAPTLRSA 60
QY 61 TADNSETGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120
DB 61 TADNSETGFKNVPDLRTDQPKPKSKRSCDPSEYRVSELKESLITTPSRPTARRRIR 120
QY 121 L 121
DB 121 L 121

RESULT 15
VP3_CAV82
ID VP3_CAV82 STANDARD; PRT; 121 AA.
AC P54096;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Apoptin (VP3).
OS Chicken anemia virus (Japanese isolate 82-2) (CAV).
OC Viruses; ssDNA viruses; Circoviridae; Gyrovirus.
OX NCBI_TaxID=73476;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95297149; PubMed=7778281;
RA Kato A., Fujino M., Nakamura T., Ishihama A., Otaki Y.;
RT "Gene organization of chicken anemia virus.";
RL Virology 209:480-488(1995).
CC -!- FUNCTION: May act as transcriptional regulator. Induces apoptosis
CC in infected cells. Element of infectious replication cycle.
CC -!- SUBCELLULAR LOCATION: Nuclear; nucleus of infected cells.
CC
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CC EMBL; D31965; BAA06733.1; -.
DR InterPro; IPR006858; CAV_VP3.
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